DECLARATION OF BRUCE A. STROMBOM ISO   GOOGLE, LLC'S OPPOSITION TO PLAINTIFF'S MOTION FOR CLASS CERTIFICATION AND APPOINTMENT OF CLASS REPRESENTATIVES AND CLASS COUNSEL

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                   UNITED STATES DISTRICT COURT
20   NORTHERN DISTRICT OF CALIFORNIA, OAKLAND DIVISION

21 CHASOM BROWN, WILLIAM BYATT,   Case No. 4:20-cv-03664-YGR-SVK
   JEREMY DAVIS, CHRISTOPHER
22 CASTILLO, and MONIQUE TRUJILLO,   **DECLARATION OF BRUCE A.
   individually and on behalf of all similarly   STROMBOM IN SUPPORT OF GOOGLE,
23 situated,   LLC'S OPPOSITION TO PLAINTIFF'S
                                        MOTION FOR CLASS CERTIFICATION
24   Plaintiffs,   AND APPOINTMENT OF CLASS
                                        REPRESENTATIVES AND CLASS
25   v.   COUNSEL**

26 GOOGLE LLC,   Judge: Hon. Yvonne Gonzalez Rogers
                                        Hearing Date: September 20, 2022
27   Defendant.   Hearing Time: 2:00 p.m..
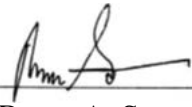
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1   I, Bruce A. Strombom, declare as follows:

2   1.   Counsel for Defendant Google, LLC retained me to provide expert analysis and, if

3   requested, expert testimony in this matter.

4   2.   I submit this declaration in support of Google's Opposition to Plaintiff's Motion for

5   Class Certification.

6   3.   Attached as Exhibit 1 is a true and correct copy of the Expert Report of Bruce A.

7   Strombom, dated June 7, 2022. The opinions I provided therein are true and correct to the best of

8   my knowledge.

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10   I declare under penalty of perjury of the laws of the United States that the foregoing is true

11   and correct. Executed in Calistoga , CA on August 3 , 2022.

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13   By _____

14   Bruce A. Strombom

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EXHIBIT 1

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NLIN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

CHASOM BROWN, et al.,	Case No. 5:20-cv-03664-LHK
Plaintiff,	
v.	
GOOGLE LLC,	
Defendants.	

EXPERT REPORT OF BRUCE A. STROMBOM
MAY 27, 2022

CONFIDENTIAL
SUBJECT TO PROTECTIVE ORDER

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I.   SUMMARY OF OPINIONS

1.   For the reasons below, in my opinion, Mr. Lasinski has not proposed a feasible or reliable methodology for calculating damages that apply class-wide in this case and has not provided reliable bases to which any statutory damages may be applied.

2.   **Opinion 1 (Section V): Mr. Lasinski's unjust enrichment and restitution opinions fail to account for uninjured class members, and he offers no way to reliably exclude class members who may be uninjured from his damages analysis.**

   a.   Mr. Lasinski assumes that each and every one of the alleged ███████ Chrome, Safari and Edge users in the U.S. who had Google accounts and browsed the web in private browsing mode while they were not signed into their Google accounts were injured. His assumption that all members of the proposed classes were injured could significantly inflate class-wide damages if it is shown that some class members were not injured.

   b.   Further, he does not propose a methodology to identify and exclude from his analysis and damages amounts those members of the proposed classes who may not have been injured. Therefore, his class-wide damages could result in a material number of uninjured class members being compensated for alleged injuries that they did not sustain.

   c.   To identify and exclude those uninjured class members would require a myriad of individualized inquiries, which is inconsistent with a class-wide model. Specifically, I understand that class members may not have been injured if they were aware of Google's data collection practices while they were using private

browsing mode. Individualized inquiry would be required to identify and exclude from Mr. Lasinski's analysis users who consented to Google's receipt of the At-Issue Data, including those class members who used Google's services despite understanding from various disclosures that Google collected the data at issue. In addition, because users have varying preferences for, and have obtained different value from, personalized ads (*e.g.*, through discount coupons offered through personalized ads), individualized inquiry would be required to identify and exclude from the analysis those class members who derived more value from Google's ads personalized using the At-Issue Data than their data is worth (to them, to Google, or in the market). The results of such individualized inquiries could significantly affect the class-wide damages amount.

3.   **Opinion 2 (Section VI): Mr. Lasinski's proposed method for calculating and allocating Google's unjust enrichment is speculative and overstates Google's unjust enrichment from the alleged wrongful acts.**

a.   Mr. Lasinski's proposed method for calculating unjust enrichment is unreliable, speculative, and overstates Google's unjust enrichment. Mr. Lasinski's proposed method is based on estimates of the effects of various factors on Google's revenue *in 2020* from a Google study that includes comments about the study being based on conservative estimates. Mr. Lasinski also erroneously assumes that many of the estimates in the study would be applicable for each year in the class period, under the speculative assumption that the effect of various factors on Google's revenue did not change over time. In addition, Mr. Lasinski's speculatively assumes that the percentage of users with Google accounts remained constant over time at a level

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determined in a 2022 survey. These erroneous assumptions make his method unreliable.

b. Even if Mr. Lasinski's general method for calculating Google's unjust enrichment was reliable, his calculation grossly overstates Google's profits obtained from the At-Issue Data.

    i. First, Mr. Lasinski estimates the unjust revenue Google allegedly earned and does not subtract any costs that Google incurred to earn that revenue, even though, on average, Google paid ▮▮▮▮▮▮▮▮▮▮ of revenue it generated for *incremental* expenses necessary to generate that revenue and paid an additional ▮▮▮▮▮▮▮▮▮▮ of revenue to cover other costs. From an economic perspective, the costs Google incurred to generate revenue must be taken into account because a company cannot generate revenue without incurring any costs.

    ii. Second, Mr. Lasinski overstates the proportion of Chrome, Safari, and Edge internet traffic that was in private browsing mode during the class period. Adjusting his model to account for the estimated growth in Incognito traffic decreases his proposed unjust enrichment significantly.

    iii. Third, Mr. Lasinski overstates Google's unjust revenue by overstating the portion of revenue Google generated from conversion-based autobidding during the class period and understating the portion of revenue Google generated from bidding methods that were not affected or were less affected by cookies than conversion-based autobidding.

iv. When considered together, these issues with Mr. Lasinski's methodology to calculate class-wide unjust enrichment overstate Mr. Lasinski's estimates of Google's alleged unjust enrichment by at least between ██████████ ████████ depending on the scenario proposed by Mr. Lasinski.

c. Mr. Lasinski has not proposed a reliable method for allocating unjust enrichment damages to class members. Both of Mr. Lasinski's proposed allocation methods are severely flawed and unreliable for two reasons.

i. First, there is variation in the user controls class members used, amount of time class members spent browsing in private browsing mode, amount of At-Issue Data Google received from each class member, and amount of benefit Google obtained from each class member's At-Issue Data. This would cause significant variation in the amount of At-Issue Data Google received from each class member and the amount by which Google was unjustly enriched from each class member. Mr. Lasinski's proposed allocation methods do not take this variation into account, and therefore fail to compensate class members in proportion to either the harm they suffered or the amount they contributed to Google's unjust enrichment.

ii. Second, Mr. Lasinski inappropriately assumes that each browser instance (in his Instance-based Method) and each class member (in his Class member-based Method) resulted in the same profit to Google. Mr. Lasinski fails to account for significant variation in the extent to which different class members contributed to Google's alleged unjust enrichment. Google received significantly more data for some class members than others, and it

earned significantly more revenue and profit from some class members compared to others.

4. **Opinion 3 (Section VII): Mr. Lasinski's proposed methods for calculating and allocating class-wide restitution damages are unreliable and overstate damages.**

a. Mr. Lasinski's method for calculating class-wide restitution damages is economically unreasonable and results in class-wide restitution damages that are not commensurate with what Google, as a reasonable buyer, would be willing to pay for the data at issue given the benefit Google could obtain from that data. Specifically, if the value of the At-Issue Data is ▮▮▮▮▮ as Mr. Lasinski claims, and the At-Issue Data was received from at most ▮▮▮▮▮ of browsing traffic as Mr. Lasinski assumes, then by Mr. Lasinski's logic, similar data collected from all traffic should be worth over ▮▮▮▮▮, which is more than Alphabet's operating profits from all products and services sold in the U.S. (and most of the products and services it offers are not at issue in the case). Moreover, Mr. Lasinski's class-wide restitution damages are between ▮▮▮▮▮ higher than Google's alleged unjust revenue per Mr. Lasinski, and between ▮▮▮▮▮ higher than Google's alleged unjust enrichment. This means that Mr. Lasinski proposes that Google's data is worth many times more than what Google could receive as revenue and profits from use of the data.

b. In addition, Mr. Lasinski has not explained a glaring hole in his logic: If the data Google collected from panelists in a market research study upon which Mr. Lasinski relies is the same as data Google collected from class members, then why would Google need to pay panelists at all for their browsing activity?

c. Mr. Lasinski has failed to propose a reliable method for calculating class-wide restitution damages for two reasons.

    i. First, he fails to reliably quantify the value of the At-Issue Data. The ▮ monthly value per device that is the cornerstone to Mr. Lasinski's method is a grossly overstated measure of the value of the At-Issue Data. He claims this is the value of the At-Issue Data because Google paid this amount to people who participated in a Google market research study but ignores that Google's payment includes compensation for much more than is at issue in this case. In particular, Google's payment includes compensation for data that I understand is not at issue in the case, such as demographic information, non-private browsing online browsing data, and other system and network data. In addition, Google's payment includes compensation for non-data-related demands imposed on panelists that were not imposed on class members such as requirements to complete certain tasks (*e.g.*, complete surveys) and for restrictions to which panelists must abide (*e.g.*, prohibition from using any ad or data blockers).

    ii. Second, Mr. Lasinski has failed to propose a reliable method for calculating class-wide restitution damages because he fails to reliably quantify the base on which his claimed ▮ payment should be applied to calculate class-wide damages. He uses the number of unique browser instances with which users browsed in private browsing mode in each month during the class period as a proxy for the number of devices that class members used to browse in private browsing mode. However, the number of browser instances is an

overstated measure of the number devices in each period. For example, a user changing a device or reinstalling the browser in one month would appear as two separate instances. Mr. Lasinski's estimate of the number of browser instances in each year of the class period is also overstated because he uses data for a recent period to estimate the number of instances and assumes that the percentage of browser instances accessing private browsing mode over the class period was the same as in the years 2020 and 2021, even though case evidence indicates that the usage of private browsing mode was lower in prior years.

iii. Mr. Lasinski also fails to propose a reliable method to allocate his overstated restitution damages to individual class members. Mr. Lasinski's proposal to allocate restitution damages based on browser instances or class members fails to account for the variation in the amount and type of At-Issue Data Google received from individual class members, and therefore the variation in damages that each class member would be entitled to from an economic perspective. Mr. Lasinski proposes to either compensate each class member the same amount of damages or compensate class members based on browser instances that are completely unrelated to usage of private browsing mode. For example, he would compensate a class member who blocked third-party cookies and browsed in private mode once per month using three separate devices *three times* more than he would compensate a user who did all her browsing in private browsing mode from one device.

5.   **Opinion 4 (Section VIII): Mr. Lasinski claims that the class-wide damages could be distributed to class members in the claims administration process and speculates that a claims administrator could implement his proposed methodology. However, he does not propose how a claims administrator would determine the many factors that are relevant to understanding the harm each class member suffered and the amount of damages to which each class member would be entitled. Examples of such factors include:**

    a.   When during the class period each class member browsed in private mode, how much time each class member spent browsing in private mode, and how each class member's frequency and length of private browsing changed over time;

    b.   How much each class member benefited from personalized advertisements;

    c.   How much profit Google earned from data it received from each class-member's At-Issue Data;

    d.   When a class member shared a browser instance, how many users shared the instance, whether those users are included in the class, and how to quantify and remove the value associated with the browsing of users who shared the instance but are excluded from the class;

    e.   Each class member's number of browser instances across all affected devices, especially in instances when the user no longer uses the devices;

    f.   The amount of time within the months of shared usage that the user browsed in private browsing mode relative to other users of the same instance; and

    g.   The user controls that each user used to prevent Google from receiving data or benefitting from the data.

6.   **Opinion 5 (Section IX): There are issues with all four "bases" to which Mr. Lasinski claims a rate of statutory damages could be applied.**

a. Mr. Lasinski's first proposed base, the number of individual pageloads in private browsing modes during the entire class period, is not an economically reasonable base because it would result in statutory damages that are higher than the total gross domestic product of the United States during the class period.

b. Mr. Lasinski's second proposed base, the number of unique monthly private browsing instances during the class period, is also not a reasonable base because it results in statutory damages that are much higher than the total profit Alphabet earned from all products and services during the class period.

c. Mr. Lasinski's third proposed base, the number of unique private browsing instances across the classes during the class period, is unreliable because it would not include class members who did not use private browsing mode in the month for which Mr. Lasinski uses UMA data to obtain the number of browser instances, but who may have used private browsing mode in other months. Mr. Lasinski's third proposed base is also unreliable and overstated because it fails to consider that users may reinstall Chrome on a device or replace their devices, and because Mr. Lasinski's calculations depend on unreliable results from Mr. Keegan's survey.

d. Mr. Lasinski's fourth base, the number of class members in each class during the class period, is unreliable and overstated because Mr. Lasinski overstates the share of users who browse in private mode and share of users with Google accounts (by relying on unreliable results from Mr. Keegan's survey). Mr. Lasinski's number of

class members also includes minors and may be overstated to the extent minors should be excluded from the class.

e.   Finally, Mr. Lasinski fails to consider whether there is a reasonable economic purpose for the allegedly wrongful data collection.

II.   INTRODUCTION

A.   Qualifications

7.   My name is Bruce A. Strombom. I am a Senior Advisor in the Los Angeles office of Analysis Group, Inc., an international economic, financial, and strategy consulting firm with ten offices throughout North America, three in Europe, and one in Asia. Analysis Group employs over 1,000 staff, many with advanced degrees in economics, management, or statistics. I hold a Ph.D. in economics from the University of California, Irvine and a B.A. in economics from San Jose State University. My areas of specialization include applied microeconomics, industrial organization, and finance.

8.   For the past 28 years I have been employed as an economist and have served as a consulting and testifying expert in public policy matters and commercial litigation. Previously, I was Executive Vice President of Business Valuation for a middle market merger and acquisition firm and Manager in the Financial Advisory Services group of the public accounting firm Price Waterhouse. I have testified on topics involving economics, statistics and econometrics, among others, in numerous federal and state courts and in arbitrations. In testimony, I have addressed issues related to class certification, liability, loss causation, and damages. I have conducted economic analyses related to the appropriateness of class treatment in approximately four dozen cases involving a range of products and markets. A copy of my curriculum vitae, including inter

alia, a list of my testimony in the past four years, and a list of all publications I have authored in

the past ten years, is attached as **Appendix A**.

B.   Assignment

9.   In the above-captioned matter, Chasom Brown et al. (collectively "Plaintiffs")

allege that Google, LLC ("Google") collects "personal and sensitive user data while users are in a

'private browsing mode'" without disclosure or consent of users.[1] As a result of Google's alleged

misconduct, Plaintiffs claim that "Google reaps billions of dollars in profits each year."[2]

10.   I have been retained by counsel for Google to provide expert testimony in the

above-captioned matter. I have been asked to evaluate and respond to analyses, opinions, and

conclusions provided by Plaintiffs' expert Michael J. Lasinski. In particular, I have been asked to

opine on the following questions:

- Assuming liability, have Plaintiffs provided a method common to the proposed classes capable of reliably showing that all members of the proposed classes were in fact damaged by Google's purported conduct?

- Assuming liability, have Plaintiffs provided a method common to the proposed classes that would be capable of reliably showing that Google profited from the purported violations with respect to the proposed classes, and if so, by how much?

- Assuming liability, have Plaintiffs provided a method common to the proposed classes capable of reliably assessing the value of the "personal and sensitive user data"[3] Google allegedly improperly collected?

- Assuming liability, have Plaintiffs provided a reliable method for estimating the bases to which a statutory rate could be applied?

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[1] *See* Third Amended Complaint, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-YGR, filed February 3, 2022, ("TAC"), ¶ 1.

[2] TAC, ¶ 1.

[3] TAC, ¶¶ 1, 4.

11.   Analysis Group is compensated at a rate of $900 per hour for the time I spend on this matter. The rates for other Analysis Group staff members assigned to this case range from $380 to $705 per hour. Neither my nor Analysis Group's compensation is dependent on the nature of my conclusions or the outcome of this matter.

C.   Materials Relied Upon

12.   In forming my opinions, I have reviewed materials, data, and information provided to me by counsel for Defendant or obtained from public sources. These materials include, among others, the third amended complaint, the expert report of Michael J. Lasinski, documents the parties produced in the case, deposition testimony of various Google employees, and various data and publications from publicly available sources. The facts and data I have relied upon in forming my opinions are identified in this report, accompanying exhibits and/or **Appendix B**.

13.   I understand that discovery is ongoing. I reserve the right to adjust or supplement my opinions as appropriate should additional relevant documents or data become available.

III.   SUMMARY OF PLAINTIFFS' ALLEGATIONS

14.   Plaintiffs allege that Google collects "personal and sensitive user data while users" are using Chrome and other browsers in a private browsing mode without disclosing this data collection or obtaining consent from users.[4] Plaintiffs claim that Google repeatedly represented that "users have control over what information is shared with Google and that users can prevent Google from tracking their browsing history and collecting their personal data online."[5] As a result

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[4] TAC, ¶ 1; Order Denying Motion to Dismiss, *Chasom Brown, et al. v. Google LLC*, Case No. 20-CV-03664-LHK, Dkt. 113, p. 2.

[5] TAC, ¶¶ 40–41.

of these representations, Plaintiffs allege that class members reasonably expected that Google would not collect their data "when they were using a browser in 'private browsing mode.'"[6]

15.   Plaintiffs further allege that Google collects personal information such as "details about individuals' lives, interests, and internet usage" through means including "Google Analytics" and "Google's Ad Manager" for purposes of creating user profiles or providing targeted advertising.[7] Plaintiffs allege that Google unlawfully collected the following data from a user whenever a user visits a website that is running Google Analytics or Google Ad Manager:[8]

- "The 'GET request' sent from the user's computer to the website."
- "The IP address of the user's connection to the internet;"
- "Information identifying the browser software that the user is using;"
- "Any 'User-ID' issued by the website to the user;"
- "Geolocation of the user;" and
- "Information contained in 'Google cookies,' which were saved by the user's web browser on the user's device at any prior time."

16.   In the remainder of this report, I refer to the data listed above as the "At-Issue Data."

17.   Plaintiffs argue that "Google reaped unjust profits and revenues" as a result of the alleged wrongful conduct, which include "Google's profits and revenues from their targeted-advertising and improvements of Google's other products."[9] Plaintiffs claim that Google profits from the data it collects from users, including those in a private browsing mode, in different ways. First, Plaintiffs claim that "Google associates the confidential communications and data with a user profile or profiles, to enrich Google's ability to charge its customers for advertisement-related

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[6] TAC, ¶¶ 40–41.

[7] TAC, ¶¶ 8–9, 43.

[8] TAC, ¶ 63.

[9] TAC, ¶ 284.

services."[10] Second, Plaintiffs allege that "Google… uses the intercepted confidential communications and user data (in combination with the user's profile) to direct targeted advertisements to consumers (including Plaintiffs and Class members)."[11] Third, Plaintiffs assert that "Google uses the results to improve Google's own algorithms and technology, such as Google Search."[12]

18.   Plaintiffs seek to certify two classes. Class 1 consists of "[a]ll Chrome browser users with a Google account who accessed a non-Google website containing Google tracking or advertising code using such a browser and who were (a) in "Incognito mode" on that browser and (b) were not logged into their Google account on that browser,…from June 1, 2016 through the present."[13] Class 2 consists of "[a]ll non-Chrome browser users with a Google account who accessed a non-Google website containing Google tracking or advertising code using any such browser and who were (a) in "private browsing mode" on that browser, and (b) were not logged into their Google account on that browser,… from June 1, 2016 through the present (the 'Class Period')" (collectively, the "Proposed Class 2").[14]

19.   Plaintiffs "seek restitution and disgorgement of these unjust profits and revenues."[15] They claim that they "suffered injury-in-fact, including the loss of money and/or property as a result of Google's unfair and/or unlawful practices, to wit, the unauthorized

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[10] TAC, ¶ 115.

[11] TAC, ¶ 115.

[12] TAC, ¶ 115.

[13] TAC, ¶ 192. In the remainder of this report, I refer to Proposed Class 1 and Proposed Class 2 collectively as the "classes" and to members of either class as "class members." Moreover, "class-wide damages" refers to damages for both classes as a whole, unless specifically noted otherwise.

[14] TAC, ¶ 192.

[15] TAC, ¶ 284.

disclosure and taking of their personal information which has value," and "harm in the form of diminution of the value of their private and personally identifiable data and content."[16] Plaintiffs' complaint also states that "Google's actions caused damage to and loss of Plaintiffs' and Class members' property right to control the dissemination and use of their personal information and communications."[17] In addition, Plaintiffs allege that they "did not receive the benefit of the bargain for which they contracted and for which they paid valuable consideration in the form of the personal information they agreed to share."[18]

IV.   SUMMARY OF MR. LASINSKI'S PROPOSED METHODOLOGIES FOR CALCULATING CLASS-WIDE DAMAGES

20.   Mr. Lasinski was retained by counsel for Plaintiffs "to provide expert analysis and, if requested, expert testimony regarding the measures of monetary relief that may be appropriate if liability is found against Google LLC ('Google') for the alleged wrongful conduct described in Plaintiffs' Third Amended Complaint."[19]

21.   In his expert report, dated April 22, 2022, Mr. Lasinski opines that Google's unjust enrichment can be calculated on a class-wide basis, as can the class-wide restitution damages that he claims would compensate users for the value of the At-Issue Data Google received from them. He further opines that the class-wide unjust enrichment damages and restitution damages can be allocated to class members during the claims administration process.

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[16] TAC, ¶ 282.

[17] TAC, ¶¶ 283.

[18] TAC, ¶ 275.

[19] Expert Report of Michael J. Lasinski, *Chasom Brown, et al. v. Google LLC*, Case No. 4:20-cv-03664-YGR-SVK, April 22, 2022, ("Lasinski Report"), ¶ 10.

A. **Unjust enrichment**

22.	Mr. Lasinski attempts to quantify the revenue that Google earned from the alleged wrongful acts—not Google's unjust enrichment. He calculates this unjust revenue under three scenarios. In the first scenario, he attempted to calculate the alleged unjust revenue from (a) *all* of Google's U.S. Display Ads shown to users in private browsing mode, and (b) Search and YouTube revenue attributable to personalization from third-party cookies and conversion from all private browsing traffic.[20] Mr. Lasinski calculates that Google's unjust revenue under this first scenario is ▮▮▮▮▮▮▮ and presents this number in his Summary of Opinions.[21] This is the highest amount of unjust revenue that Mr. Lasinski calculates.

23.	In the second scenario, Mr. Lasinski attempts to calculate Google's Display, Search, and YouTube revenue that is attributable to personalization from third-party cookies and conversion from all private browsing traffic and was allegedly unjustly earned from class members. Mr. Lasinski's unjust revenue in this scenario is ▮▮▮▮▮▮.[22]

24.	In his third scenario, Mr. Lasinski attempts to calculate Google's Display, Search, and YouTube revenue that is attributable to personalization and conversion from third-party cookies and was allegedly unjustly earned from class members. Mr. Lasinski's unjust revenue in this scenario is ▮▮▮▮▮.[23]

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[20] *See,* Lasinski Report, ¶¶ 133–135.

[21] *See,* Lasinski Report, ¶ 1, *Opinion 4*; ¶ 136, Figure 56.

[22] This amount is equal to the sum of the three amounts marked as "Conversion Tracking From All Traffic" in Figure 56 of the Lasinski Report.

[23] This amount is equal to the sum of the three amounts marked as "Conversion Tracking From Traffic with 3PC" in Figure 56 of the Lasinski Report.

B.   Restitution

25.   Mr. Lasinski calculates class-wide restitution damages by assuming that Google would have to pay class members ███████ per device, as this would have allegedly been the "payments necessary to incentivize an individual to knowingly relinquish the choice to keep certain browsing private and allow an organization to track all online activity."[24] He takes this payment from "the baseline payment" that Google pays to participants in the Ipsos Screenwise panel for installing a browser extension or a meter app on a device and allowing Google to have a bird's eye view on all of the user's browser activity and other device information. Mr. Lasinski does not explain why the payment that Google made for data that is significantly more comprehensive than the At-Issue Data is applicable in this case. To get class-wide damages, Mr. Lasinski multiplies his proposed payment of ███████ per device by the number of unique browser instances that accessed private browsing mode in each month, under the assumption that browser instances are equivalent to devices.

C.   Allocation of unjust enrichment and restitution damages

26.   Mr. Lasinski proposes that the class-wide unjust enrichment and restitution damages allocable to each class member can be calculated "by first dividing the total dollar value of any monetary relief… by the total number of [browser instances] during the class period," and then distributing "the resulting dollar value… to Class members in the claims administration process as a function of number of [browser instances] deemed attributable to each Class member."[25] He claims that alternatively, the claims administrator could calculate the unjust

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[24] Lasinski Report, ¶ 137.

[25] Lasinski Report, ¶ 197.

enrichment for each class member by dividing the class-wide unjust enrichment by the number of

class members.[26]

D.   Statutory Damages

27.   Mr. Lasinski also offers opinions about "how statutory damages could be calculated

for the two Classes for the class period."[27] In particular, he attempts to quantify four potential

bases to which statutory damages could be applied: (1) Number of individual pageloads in private

browsing mode during the class period; (2) Number of unique *monthly* browser instances that were

used by users to access private browsing mode across the classes during the class period; (3)

Overall number of unique browser instances that were used by users to access private browsing

mode across the classes during the class period; and (4) the number of class members.[28]

28.   As I explain in the remainder of my report, there are many issues with Mr.

Lasinski's models for calculating and allocating class-wide damages, including his unsupported

assumptions and failure to account for any variability in amount and type of At-Issue Data Google

receives from various class members, or the amount of revenue and profit Google earns from

different class members. There are also issues with Mr. Lasinski's calculation of the base to which

a statutory rate could be applied.

V.   OPINION 1: MR. LASINSKI'S UNJUST ENRICHMENT AND RESTITUTION OPINIONS FAIL TO ACCOUNT FOR UNINJURED CLASS MEMBERS AND

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[26] Lasinski Report, ¶ 197.

[27] Lasinski Report, ¶ 185.

[28] Lasinski Report, ¶ 186.

PROVIDE NO WAY TO RELIABLY EXCLUDE THEM FROM HIS DAMAGES ANALYSIS

29.   Mr. Lasinski assumes that none of the members of the two classes consented to Google's collection of the At-Issue Data.[29] He further assumes that *each one* of the alleged ███ ███ class members was injured.[30] To the extent that some users were not injured, Mr. Lasinski's proposed methodology should, but does not provide a way to identify and exclude these users from his analysis and damages.

30.   The existence of these potentially uninjured class members, which Mr. Lasinski ignores, and Mr. Lasinski's lack of methodology to identify and exclude them from his analysis and damages means that Mr. Lasinski's opinions that it is possible to calculate class-wide unjust enrichment and restitution damages are speculative and unreliable.

31.   Mr. Lasinski ignores that class members may not have been injured because they may have consented (implicitly or explicitly) to Google's receipt of the At-Issue Data. More specifically, I understand that class members may not have been injured if they consented to the alleged wrongful data collection explicitly, such as by affirmatively agreeing to Google's disclosures about data receipt and use, or implicitly, such as by reviewing public articles, privacy policies, or help pages that explain Google's data receipt and use.

32.   Class members may also not have suffered an economic injury if the value that some class members derived from personalized advertising on the basis of the At-Issue Data

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[29] Lasinski Report, ¶¶ 53, 137, 165.

[30] I understand that Plaintiffs have not presented class-wide proof showing that all Proposed Class members of the two classes were injured by Google's purported conduct.

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outweighs the purported value of the At-Issue Data or the purported economic injury as a result of the alleged collection.

33.   The existence of these uninjured class members, which Mr. Lasinski ignores, and Mr. Lasinski's lack of methodology to identify and exclude them from his analysis and damages means that Mr. Lasinski's opinions that it is possible to calculate class-wide unjust enrichment and restitution damages are speculative and unreliable.

A.   Mr. Lasinski has no methodology to account for Class members who may have explicitly and/or implicitly consented to the alleged wrongful data collection

34.   I understand that class members may not have been injured if they consented to the alleged wrongful data collection explicitly, such as by affirmatively agreeing to Google's disclosures about data receipt and use. For example, Google's Privacy Policy explains that Google collects information such as "unique identifiers, browser type and settings, device type and settings, operating system, mobile network information including carrier name and phone number, and application version number," as well as "information about the interaction of your apps, browsers, and devices with our services, including IP address, crash reports, system activity, and the date, time, and referrer URL of your request."[31] The Privacy Policy was viewed hundreds of millions of times during the class period.[32]

35.   Additionally, in 2016, Google launched a new consent process for many existing Google Account holders (the Consent Bump Agreement) and new users creating Google Accounts (the New Account Creation Agreement) that disclosed the type of information Google collects.

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[31] Google Privacy & Terms, "Google Privacy Policy," March 31, 2020, available at https://perma.cc/DQR5-A45E.

[32] GOOG-CABR-05424608.

For example, the New Account Creation Agreement explained that Google collects information such as "device IDs, IP addresses, cookies data, and location" when a user uses "apps or sites that use Google services like ads, Analytics, and the YouTube video player," and that this data could be used to "[d]eliver personalized ads,... both on Google services and on sites and apps that partner with Google."[33] Further, the FAQs to the Consent Bump Agreement explained that as users browse websites that use Google's services, such as advertising services or analytics tools, their "web browser may send certain information to Google that may include the web address of the page that you're visiting, your IP address, or cookies previously set by the site or Google." It further explains that "[t]the features described today don't change the types of data collected from these websites and apps - they simply change how that data is stored and used." ███████████████ of U.S. Google Account Holders who were shown the Consent Bump Agreement selected "I Agree" and ███████████████ of U.S. Google Account Holders who viewed the New Account Holder Agreement selected "I agree."[34] Further, I understand that class members may not have been injured if they were aware of Google's data collection practices. Class members could have become aware of Google's data collection practices through a variety of means, which I detail below:

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[33] GOOG-CABR-04067825-867 at 829.

[34] GOOG-CABR-05424629; GOOG-CABR-05435660. I understand that Plaintiffs acknowledged they were aware of, and consented to, Google's collection of the At-Issue Data when they were in a browser mode other than private mode. Plaintiffs allege that "[i]t is *common knowledge* that Google collects information about the web-browsing activity of users" and "causes targeted advertisements to be sent based on that information." TAC ¶ 163. In depositions, Plaintiffs confirmed they were aware Google collected the disputed data when they browsed the web in a mode other than private mode. *See, e.g.,* Deposition of William Byatt, December 20, 20201 ("Byatt Depo"), p. 153; Deposition of Jeremy Davis, January 7, 2022, pp. 69, 70-71; Deposition of Christopher Castillo, February 8, 2022, pp. 70, 100; Deposition of Chasom Brown, January 13, 2022 ("Brown Depo"), pp. 61, 82, 134, 158; Deposition of Monique Trujillo, February 11, 2022 ("Trujillo Depo"), pp. 56, 62. Plaintiffs understood that the Privacy Policy specifically disclosed the data collect at issue while they were in basic mode. Castillo Depo, pp. 96-98, 100-101; Byatt Depo, pp. 116-118, 120-122; Brown Depo, p. 112.

36.   *Google and other companies' help pages inform users of Google's data collection.*

Class members could have learned of Google's data collection through various support and other publicly available pages that inform users of what data Google used to serve them ads. For example, the Google help page called "How private browsing works in Chrome" explains that "[c]ookies and site data are remembered while you're browsing, but deleted when you exit Incognito mode."[35] It further explains that "[y]our activity, like your location, might still be visible to: [w]ebsites you visit, including the ads and resources on those sites[;] [w]ebsites you sign in to; [y]our employer, school, or whoever runs the networks you're using[;] [y]our internet service provider[; and] [s]earch engine." This page also specifically discloses that "[a] web service, website, search engine, or provider may be able to see [y]our IP address, which can be used to identify the general area you're in[;] [y]our activity when you use a web service[;] [y]our identity if you sign into a web services, like Gmail."[36] Another Google help page, "How Chrome Incognito keeps your browsing private," explains that "Chrome doesn't tell websites, including Google, when you're browsing privately in incognito mode." It explains "[w]hat Incognito mode doesn't do" including: "[p]revent your activity or location from being visible to the websites you visit, your school, employer, or your Internet Service provider" or "[p]revent the websites you visit from serving ads based on your activity during an Incognito session." It explains that "[a]fter you close all Incognito windows, websites won't be able to serve ads to you based on your signed-out activity during that closed session."[37]

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[35] Google Chrome Help, "How private browsing works in Chrome," available at https://perma.cc/Q5JW-H45J.

[36] Google Chrome Help, "How private browsing works in Chrome," available at https://perma.cc/Q5JW-H45J.

[37] Google Chrome Help, "How Chrome Incognito keeps your browsing private," available at https://perma.cc/W2P3-WJ58.

37.   Similarly, Microsoft Edge's private browsing page explains that private browsing does not "[h]ide our browsing from your school, employer, or internet service providers[;] [g]ive you additional protection from tracking by default[;] [or] [a]dd additional protection to what's available in normal browsing." A Microsoft Edge help page also provides details of "[w]hat data is collected or stored, and why" and provides instructions to limit the amount of data collected.[38] Another Microsoft help page notes that "[w]ebsites can still personalize content for you during your InPrivate browsing session because cookies and other site permissions aren't deleted until you close all InPrivate windows."[39]

38.   And Safari's private browsing pop-up also explains that "[a]fter you close this window, Safari won't remember the pages you visited, your search history, or your Autofill information."

39.   *Advertising campaigns to educate users on privacy awareness*. Google is a member of industry groups such as Digital Advertising Alliance (DAA) and Network Advertising Initiative (NAI) that create and follow disclosure standards in online advertising.[40] When users see ads on non-Google websites, including while in a private browsing mode, the ads are accompanied by an "AdChoices" icon that, when clicked, shows users that the ad is served through Google Ads.[41] The

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[38] Microsoft, "Microsoft Edge, browsing data, and privacy," available at https://perma.cc/NPA2-N523.

[39] Microsoft, "Browse InPrivate in Microsoft Edge," available at https://perma.cc/GZ52-TJTC and https://support.microsoft.com/en-us/microsoft-edge/browse-inprivate-in-microsoft-edge-cd2c9a48-0bc4-b98e-5e46-ac40c84e27e2.

[40] "Why you're seeing an ad," available at https://perma.cc/M4YC-J5QK.

[41] Google, "AdChoices for the Google Display Network – Google Ad Manager Help," available at https://perma.cc/XX3X-M6N9.

"AdChoices" icon also allows users to click on an icon titled "Why this ad?" that provides information on what type of data Google used to serve the ad.[42]

40.   Apple also actively promotes privacy awareness by educating users through pop-ups and advertising campaigns.[43]

41.   *Various media sources, such as public media sources that discussed Google's collection of data in Incognito mode and/or private browsing mode more generally,* as far back as 2008. **Exhibit 1** shows examples of 50 articles discussing Google's collection of data while users were browsing in private browsing mode. For example:

- A 2008 CMP TechWeb article states that "Incognito, according to Google's statement, is intended to prevent information from being left on the user's computer. It is not, in other words, an anonymization service… Consumer Watchdog argues that Chrome's Incognito mode does not confer the privacy that the mode's name suggests."[44]

- A 2014 Al Jazeera article explained that "[d]epending on what information you are trying to protect and from whom, private browsing might not be the right solution" because "private browsing doesn't mask your activity from Internet service providers, search engines or websites that you visit. Sites that you go to still receive information about you like location, browser information and IP address. Cookies are still dropped and are cleared only when you close the window."[45]

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[42] Ads Help, "Why you're seeing an ad," available at https://perma.cc/M4YC-J5QK. Based on Google's "Why you're seeing an ad" support page, there are many explanations that may appear as reasons why a user may see an ad, including: (1) User info in the user's Google account, "like age range and gender," and the user's general location; (2) User activity, like "[y]our current search query," "[p]revious search activity," "[y]our activity while you were signed in to Google;" "[y]our previous interactions with ads," and "[t]ypes of websites you visit," and "[y]our activity on another device"; and (3) other info, such as "[i]nfo you gave to an advertiser, like if you signed up for a newsletter with your email address." The AdChoices icon also allows users to learn when information about their interests may be received or used, and gives users control over how their data is received and used for ads.

[43] Apple and Privacy, available at https://perma.cc/95B9-4KXC.

[44] CMP TechWeb, "Google Chrome Privacy Issues Prompts Plea to Google Execs," November 4, 2008, available at https://perma.cc/HJ3T-Z8ER.

[45] Sara M. Watson (24 Sep 2014). "As the Decoder: How private is private browsing, really?" Al Jazeera, available at https://perma.cc/88KC-BHDK.

- A 2017 article from CNET reported that "[a] lot of people think their searches aren't tracked in private browsing mode. Unfortunately, that's not true."[46]

- A 2018 article published by The Sun and NYPost explains that "Google can still record the websites you browse while in Incognito Mode on the Chrome browser and link them to your identity."[47]

- A 2019 Wired article discussed "the long-known fact that Incognito isn't truly anonymous" and that "new research has re-emphasised that Google and other web browsers are still tracking you in privacy mode, even on the most sensitive of sites."[48]

42.   *Certain class members could have also known about Google's data collection by virtue of being employed in the computer technology industry or utilizing browser developer tools*. More than four million people in the U.S. work in "Computer Occupations," which is a Bureau of Labor Statistics occupation group that includes computer system analysts, information security analysts, computer programmers, and software and web developers.[49] It is reasonable to assume that at least some of the workers in Computer Occupations would have known that Google receives the At-Issue Data when in private browsing modes.

43.   Additionally, Chrome, Safari, and Edge provide Developer Tools that allow users to see transmission to Google while they are in private browsing mode. A user can right click on the webpage and click "Inspect" and a list of entities receiving transmissions will be visible.[50]

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[46] CNET, "Brave Browser Offers to Boost Your Online Search Privacy," December 14, 2017, available at https://perma.cc/AM7Y-QTN5.

[47] Sean Keach, "Google's incognito mode isn't as private as you thought," *The Sun*, August 22, 2018, available at https://perma.cc/UWU4-MHHE.

[48] Clarke, Laurie, "Google Chrome's Incognito Mode is Way Less Private Than You Think," July 20, 2019, Wired, available at https://perma.cc/2HGJ-GWHN, accessed on May 12, 2022.

[49] Bureau of Labor Statistics, Occupational Employment and Wage Statistics, May 2020 data, available at https://perma.cc/H9G2-XGZ3.

[50] *See, e.g.,* TAC ¶ 86.

44.   *Certain class members could have learned of Google's receipt of data from privacy policies or other disclosures on websites they visit*. Most websites have privacy policies, and in many cases the privacy policies explicitly state that they share data from a user's visit to the website with third parties like Google. Among the 25 Google Ad Manager domains with the highest website traffic in 2021, all 25 have a privacy policy stating that user data is shared with third parties, and 19 specifically mention that data is shared with Google.[51] For example, when users visit USAToday.com[52] for the first time, they are shown a cookie pop-up that states:

> We use cookies to personalize content and ads, provide social media features, improve our site and analyze our traffic. We may share information about your use of our site with our advertising, social and analytics providers. By clicking "Accept All Cookies" you agree to the use of these cookies as further described in our Privacy Policy.[53]

45.   The cookie-pop up provides a link to USAToday.com's privacy policy, which explicitly mentions that the website uses cookies: "In general, we and our third party providers and advertisers, use cookies … to provide users with interest-based content or advertising based upon their browsing activities and interests." The privacy policy also specifically mentions Google Analytics and provides a link to Google's Google Analytics opt-out browser extension.[54]

46.   Also supporting the above are the findings of Dr. On Amir, Google's survey expert. His survey results indicate that class members were generally aware of Google's data collection in private browsing mode. For example, Dr. Amir's "Consumer Perceptions and Expectations"

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[51] **Exhibit 2.**

[52] USAToday.com is among the 25 highest traffic domains using Google Ad Manager. Defendant's Supplemental Response and Objections to Plaintiffs Interrogatory No. 5, pp. 5-6.

[53] "USA Today: Latest World and USNews – USATODAY.com," available at https://perma.cc/ZZ72-T3P6.

[54] USA Today, "Gannett Privacy Policy," November 23, 2021, available at https://perma.cc/HA9K-Q7QH.

survey shows that ███████ of respondents believe that companies that provide analytics and advertising services to websites visited, internet service providers, and companies that own the websites visited either "probably receive" or "do receive" data from their private browsing session such as IP address, URLs of the sites visited, and cookies.[55]

47.   If the Court determines that class members who consented to or were otherwise aware of Google's receipt of At-Issue Data are not injured, then neither Plaintiffs nor Mr. Lasinski offer any way to identify and exclude these users on a class-wide basis. Rather, Plaintiffs and Mr. Lasinski simply assume that *not one* of alleged ███████ class members[56] would have understood that Google received their data through its web-services, and thus that *all* class members would have been injured.[57] Their assumption would result in uninjured class members being compensated for alleged injuries that they did not, in fact, incur.

B.   The classes include users who may not have suffered economic injury because they derived more value from Google's personalization using their At-Issue Data than their data is worth

48.   Mr. Lasinski has not undertaken any analysis to test or control for the fact that different users place different value on personalized ads and digital services, obtain different benefits from personalized ads, and value privacy differently. The value that some class members may have derived from personalized advertising on the basis of the At-Issue Data may outweigh the purported value of their At-Issue Data or the purported economic injury as a result of the alleged collection.

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[55] Expert Report of Professor On Amir, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-YGR, April 15, 2022 ("Amir Report"), ¶¶ 5–6, 56.

[56] Lasinski Report, Figure 75.

[57] Lasinski Report, pp. 72-77.

49.   Users have different levels of privacy concerns and preferences, as well as different willingness to forego privacy for the benefits from personalization. For users who either have low privacy concerns or high benefits from personalization, there may be no damages due to Google's alleged misconduct if the value these users receive from personalized ads is greater than the damage they suffered from the alleged unauthorized collection of their At-Issue Data. Mr. Lasinski's class-wide damages do not consider that there are class members who value the benefits from personalized advertising greater than the value of their allegedly improperly collected data.

50.   Surveys, studies, and case evidence indicate that users have different sensitivities to collection of their data and derive different benefits from personalization. In his rebuttal report, Google's survey expert, Dr. Amir, discussed case evidence indicating that many Chrome users, including Plaintiffs, recognize that there are benefits from the use of that data for enhanced performance and personalized ads.[58] Dr. Amir summarized Chrome user accounts about ways in which users have benefitted from Google's use of the data it received, and also pointed to studies reporting that many users derive benefits from marketing and advertising personalized using their data.[59] One of the studies Dr. Amir discussed is a 2016 survey from digital performance marketing agency Adlucent that concluded that consumers understand targeted advertising is based on their user data[60] and many customers are willing to share data to get more personalized advertising. Specifically, the survey found that 71 percent of consumers prefer personalized ads, tailored to

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[58] Rebuttal Report of Professor On Amir, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-YGR-SVK, May 20, 2022 ("Amir Rebuttal Report"), ¶¶ 57, 73.

[59] Amir Rebuttal Report, ¶¶ 72-73.

[60] Specifically, 87 percent of the surveyed consumers "believe personalized advertising means unique content, based on their previous purchases or shopping behavior and delivered at a time when they are looking to buy a product."

their interests and shopping habits.[61] The survey also found that 44 percent of respondents were willing to give up information including name, address, or email address in order to get more personalized advertising, and many "[c]onsumers are eager to share what products they're interested in" (with 50 percent of the respondents indicating that they would provide product category preferences, 8 percent indicating that they would provide information on major life events like marriage or the birth of a child, and 3 percent indicating that they would provide home address).[62] The survey identified the following as the greatest benefits to personalization: (i) Reduction in irrelevant ads (46 percent), (ii) a way to discover new products (25 percent); and (iii) making online searching and shopping faster and easier (19 percent).

51.   Many more studies in addition to the ones Dr. Amir references in his report find that users derive benefits from personalized ads. For example:

- A 2013 Infosys survey of U.S. consumers and retailers shows that 86 percent of the 1,000 surveyed customers "said that personalization has at least some impact on what they purchase," and 59 percent stated personalization has "a noticeable influence" on their purchase and 58 percent discover new products through advertising.[63] Among the potential benefits of personalization, the study mentions that the majority of consumers who have experienced personalization "are highly in favor of personalized coupons," personalized offers, and promotions or product recommendations based on previous experiences.[64]

- A 2017 survey by Segment shows that 31 percent of respondents state that they expect to be served personalized online ads within an hour of identifying themselves to a retailer. [65]

- A 2016 Salesforce survey shows that "[s]ixty-three percent of Millennial consumers and 58% of GenX consumers are willing to share data with

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[61] Adlucent, "71% of Consumers Prefer Personalized Ads." Available at https://perma.cc/3J8H-D3VK.

[62] Adlucent, "71% of Consumers Prefer Personalized Ads." Available at https://perma.cc/3J8H-D3VK.

[63] Infosys, "Rethinking Retail. Insights from consumers and retailers into an omni-channel shopping experience," 2013, pp. 2, 4, available at https://perma.cc/8WSQ-VAFA.

[64] Infosys, "Rethinking Retail. Insights from consumers and retailers into an omni-channel shopping experience," 2013, p. 3, available at https://perma.cc/8WSQ-VAFA.

[65] Segment, "The 2017 State of Personalization Report," p. 7, available at https://perma.cc/2456-8EW6.

companies in exchange for personalized offers and discounts."[66] Even among "Baby Boomers" or "Traditionalist" customers, the fraction who strongly agree or agree with sharing personal data in exchange for personalized discounts, personalized shopping experiences, or product recommendations is above 40 percent. The authors even titled the report in which they summarized their survey results "Please Take My Data: Why Consumers Want More Personalized Marketing."[67]

- A 2018 Salesforce Research survey found that the "majority of customers are willing to share personal information if it is used to power personalized offers and engagements" and more than half understand how companies use their data to deliver more personalized experiences.[68]

- A Pew Research Center survey about attitudes on privacy shows that a third of respondents would accept websites using their data to deliver targeted advertisements.[69]

52.   Users may even obtain monetary benefit from personalized ads. The 2013 Infosys report discusses user preferences for "personalized coupons" and the 2016 Salesforce report discusses user willingness to share data in exchange for personalized discounts. As an example, imagine a user who looked at products on retailer Carter's website using a private browsing session but did not purchase anything. If later in the browsing session the user went to the New York Times and saw an ad with a coupon for Carter's that was shown to the user because they previously visited Carter's website, then the user would have obtained monetary benefit from using the coupon to purchase products they might have purchased at a higher price without the benefit of the coupon.

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[66] McGinnis, D., "Please Take My Data: Why Consumers Want More Personalized Marketing," Salesforce, December 2, 2016, available at https://perma.cc/Z2Z9-ZGZN.

[67] McGinnis, D., "Please Take My Data: Why Consumers Want More Personalized Marketing," Salesforce, December 2, 2016, available at https://perma.cc/Z2Z9-ZGZN.

[68] Salesforce Research, "Trends in Customer Trust," Research Brief, available at https://perma.cc/YJ8U-YT55, p. 7.

[69] Edmonds, R., "People Don't Want to Trade Privacy for Targeted Ads," Poynter, January 14, 2016, available at https://perma.cc/D4RN-5Y3H.

53.   Mr. Lasinski does not perform any analysis to test or control for the fact that value

from personalized advertising that class members may receive on the basis of the At-Issue Data

may outweigh the purported value of the At-Issue Data or the alleged injury they suffered from

Google's alleged wrongful conduct. Because users have varying preferences for personalized ads

and there is variation in the degree to which individual users are willing to provide their data for

the benefit of getting personalized ads, individualized inquiry would be required to identify and

exclude from the analysis those class members who derived more value from Google's

personalized ads than their data is worth or the alleged economic injury they suffered.[70]

54.   As a result, Mr. Lasinski's methodology is likely to calculate class-wide damages

for, and apportion damages to, many uninjured class members.

VI.   **OPINION 2: MR. LASINSKI'S PROPOSED METHOD FOR CALCULATING AND ALLOCATING GOOGLE'S UNJUST ENRICHMENT IS SPECULATIVE AND OVERSTATES GOOGLE'S UNJUST ENRICHMENT FROM THE ALLEGED WRONGFUL ACTS**

A.   **Summary of Mr. Lasinski method for calculating and allocating unjust enrichment**

55.   The foundation of Mr. Lasinski class-wide unjust enrichment method is the

▮▮▮▮▮▮▮ Impact Study that Google prepared in 2020 and which ▮▮▮▮▮▮▮

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[70] The fact of injury cannot be established without a reliable estimate of the value Proposed Class members derive from personalized advertising. Further, the results of the individualized inquiry to establish the fact of injury will affect the amount of estimated class-wide damages.

████████████████████████ [71] Mr. Lasinski uses the following assumptions from the ████████

many of which he assumes do not change over time:[72]

- ██
  ████████ [73]

- ██
  ████████████████████████ [74]

- ██ [75]

- ██
  ██
  ██ [76]

- ██
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- ██
  ████████████████ [78]

- ██
  ██
  ████████████████████████ [79]

- ██
  ████████ [80]

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[71] GOOG-CABR-04324934–944.

[72] Lasinski Report, ¶ 36.

[73] Lasinski Report, ¶ 73. *See also,* GOOG-CABR-04324934-944 at 940.

[74] Lasinski Report, ¶ 74. *See also,* GOOG-CABR-04324934-944 at 940.

[75] Lasinski Report, ¶ 75. *See also,* GOOG-CABR-04324934-944 at 940.

[76] Lasinski Report, ¶¶ 110 and 126. *See also,* GOOG-CABR-04324934-944 at 937 and 939.

[77] Lasinski Report, ¶ 97. *See also,* GOOG-CABR-04324934-944 at 938.

[78] Lasinski Report, ¶ 81. *See also,* GOOG-CABR-04324934-944 at 940.

[79] Lasinski Report, Schedule 8.7. *See also,* GOOG-CABR-04324934-944 at 938, 941.

[80] Lasinski Report, ¶ 66. *See also,* GOOG-CABR-04324934-944 at 936, comment from Jing Kong.

- ███[81]

56.   He then uses the 2020 and 2021 User Metrics Analysis, or "UMA,"[82] data Google produced, and results of a survey conducted by Plaintiff's expert Mark Keegan[83] to calculate the share of private browser traffic in Incognito mode. Mr. Lasinski also uses publicly available and produced data as bases for his assumptions about the revenue that Google generated from traffic related to: (a) Safari and Edge, (b) outside of the U.S., (c) from non-Google account holders, (d) from users who browsed in private browsing mode while signed in, and (e) from AdMob, which represents revenue from mobile apps.

57.   Mr. Lasinski does not account for any costs Google incurred to generate the revenue he calculates and, with few exceptions, assumes that the estimated effects of various factors on Google's revenue in 2020 remained unchanged during the class period.

58.   Mr. Lasinski also offers three possible scenarios for his unjust revenue estimation:[84]

- "Google's U.S. revenues and attendant profits generated from Google's collection and use of the private browsing data at issue."

- "Google's U.S. revenues and attendant profits generated from its collection and use of the private browsing data at issue that is attributable to personalization from traffic with third-party cookies and conversion tracking from all traffic, including conversion tracking via sitewide tagging."

- "Google's U.S. revenues and attendant profits generated from its collection and use of the private browsing data at issue attributable to personalization from traffic with third-party cookies and conversion tracking from traffic with third-party cookies."

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[81] Lasinski Report, ¶ 30. *See also,* GOOG-CABR-04324934-944 at 934. Deposition of Dr. Caitlin Sadowski, March 10, 2022 ("Sadowski Deposition"), p. 51.

[82] Sadowski Deposition, p. 51.

[83] Expert Report of Mark Keegan, April 15, 2022 ("Keegan Report").

[84] Lasinski Report, ¶ 54.

B.   **Mr. Lasinski's proposed calculation of unjust enrichment is unreliable, speculative, and overstated**

1.   *Mr. Lasinski speculates that the effect of many of the factors used in the* █████ *on Google's revenue and profits remained constant over the class period, and ignores information which indicates that Google's impact analysis* █████████████████████████████████████

59.   Mr. Lasinski's proposed method to calculate Google's unjust enrichment is based on Google's ███████ [85] It appears that Google ████████████████████████

██

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███████████ [86] ██

██████. Mr. Lasinski uses these estimated effects from 2020 for every year in the class period, under the assumption that the impact of various factors on Google's revenue did not change over the class period.

60.   For various reasons, it is speculative to assume that the effect of many of the factors used in the ███████ on Google's revenue and profits remained constant over the class period. It is also speculative to ignore information which indicates that ████████████████████

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███████████████████████████████

61.   First, Google ████████████████████████████████████

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[85] *See* **Section IV** above.

[86] GOOG-CABR-04324934–944.

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████████████[87] However, evidence suggests that some users may have enabled third-party cookies in Incognito after the ████████████ launch. Internal Google documents indicate that certain websites did not display content to users unless users enabled third-party cookies,[88] and features on some sites did not work unless the user allowed third-party cookies for the website.[89] Moreover, the 2016 survey from digital performance marketing agency Adlucent that I discuss in **Section V.B** above concluded that 71 percent of the surveyed consumers prefer personalized ads, tailored to their interest and shopping habits and 44 percent of respondents were willing to give up information including name, address or email address in order to get more personalized advertising.[90] This means that, to personalize their online experience, some Incognito users may have proactively enabled third-party cookies for some or all websites after Google started automatically disabling them, in which case Google's projected revenue loss would have been smaller. If some class members voluntarily enabled third-party cookies after ████████████ was launched, then Google's revenue from those class members during the class period may not be unjust because those users preferred the benefits conferred by third-party cookies. Mr. Lasinski's model does not account for this.

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[87] GOOG-CABR-04324934–944, p. 1.

[88] GOOG-CABR-00409399-413 at 408.

[89] *See* Chrome Cookie Settings, available at chrome://settings/cookies.

[90] The survey also found that many "[c]onsumers are eager to share what products they're interested in" (with 50 percent of the respondents indicating that they would provide product category preferences, 8 percent indicating that they would provide information on major life events like marriage or the birth of a child, and 3 percent indicating that they would provide home address). *See* Adlucent, "71% of Consumers Prefer Personalized Ads." Available at https://perma.cc/3J8H-D3VK.

62.   Second, the ▮▮▮▮▮▮ did not model how advertisers might adapt to the default disabling of third-party cookies in Incognito mode. Case documents suggest that some advertisers may have found ways to mitigate the impact of the program on the effectiveness of their online advertising by shifting budgets. For example, a Google presentation on "Identity end-state scenarios" after the removal of third-party cookies from iOS devices noted that, after the "degradation of targeting" in iOS due to Apple removing user identifiers for advertisers in 2020,[91] "[advertisers] will consciously move advertising budgets around … [a]way from iOS … (possibly) [a]way from 3P networks towards Google (Google is more able to target & measure with GAIA, maintains tentpole O&O props w/ Gmail+YT sizable audiences."[92] That is, as advertisers lost the ability to target users in iOS, they were expected to reallocate their advertising budgets towards areas where they can target users. Moreover, in an internal research paper about the impact of Apple removing third-party cookies by default in Safari, Google noted that Apple's removing third-party cookies could "bring potential revenue lift by shifting advertisers' budget from other exchanges to [Google's] exchange."[93] Again, this indicates that advertisers' behavioral response to ▮▮▮▮▮▮ would have likely caused Google's projected loss from default-blocking of third-party cookies in Incognito mode to be smaller because advertisers dynamically choose to spend where they believe they can best target the users they wish to target.

63.   Third, Mr. Lasinski erroneously assumes that the estimated effect of various factors on Google's revenue in 2020 are applicable throughout the class period. Many of these assumptions are unsupported and some are at odds with the facts in this case, causing Mr.

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[91] John Koetsier, "Apple Killed The IDFA. What Else Dies?," *Forbes*, June 29, 2020, available at https://perma.cc/66CR-6RGB and https://www.forbes.com/sites/johnkoetsier/2020/06/29/apple-killed-the-idfa-what-else-dies/?sh=7f7a2297262.

[92] GOOG-CALH-00300451-486 at 452, 466-468.

[93] GOOG-CABR-03731716-727 at 716.

Lasinski's method to be speculative and unreliable. For instance, ███████████████

██

██

████████████████████████████████████.[94]

64.   Despite these issues, Mr. Lasinski uses the estimates in the ██████ without any apparent regard to their impact on his estimate of Google's unjust enrichment from the alleged wrongful acts. By doing so, as I show later in this section, he materially miscalculates Google's unjust enrichment. While ██ " may have been appropriate for Google's purposes, they are inappropriate to use for calculating class-wide damages. Further, for Google's internal purposes, ████████████████████

██

██. However, the introduction of this bias into Mr. Lasinski's calculations causes him to overstate Google's unjust enrichment.

65.   In **Section VI.C** below, I make adjustments for some of these unsupported assumptions. However, I am unaware of any data produced in this case to estimate the effects of some factors like users enabling third-party cookies or advertisers reallocating budgets to other Google products.

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[94] ██ GOOG-CABR-04324934-944, p.8.

> 2. *Mr. Lasinski speculates that the percentage of users with Google accounts, which he calculates using results from the 2022 survey of Plaintiffs' expert Mark Keegan, would have remained constant over the class period*

66.   In his calculations of unjust enrichment, Mr. Lasinski assumes that approximately 92 percent of Chrome Incognito users, 94 percent of Edge private browsing mode users, and 76 percent of Safari private browsing mode users had Google accounts.[95] He obtains these numbers from Mr. Keegan's survey results.[96] Mr. Lasinski uses these percentages in his methodology to exclude users of private browsing modes who do not have a Google account because they would not be class members.[97] This means that, to the extent that any of those percentages is overstated, so too will be Mr. Lasinski's measures of unjust enrichment.

67.   In fact, Mr. Keegan's survey results overstate the percentage of users with Google account in each year of the Proposed Class period for two main reasons: (1) Mr. Keegan's survey measures the percentage of users with Google accounts at any point in the last five years, not in each year or month; and (2) I understand that Mr. Keegan's survey suffers from other biases, as shown by Dr. Amir, which render its results unreliable.[98]

68.   According to Mr. Keegan's report, he asked participants in his survey whether they had a Google account "at any time during the <u>last five years,</u>"[99] which would approximately cover the period between April 2017 and April 2022.[100] Mr. Lasinski applies the percentage of participants who answered the question affirmatively to the entire class period, which begins in

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[95] Lasinski Report, Schedule 21.1.

[96] Lasinski Report, Schedule 21.1. *See also,* Keegan Report, Table 7.

[97] The definitions of both Proposed Classes restrict members to users "with a Google account." *See* **Section III** above.

[98] Amir Rebuttal Report, ¶¶ 82-90.

[99] Keegan Report, ¶ 52.

[100] Mr. Keegan states that his survey took place "in April 2022." Keegan Report, ¶ 35.

June 2016. This means that if some class members created their Google accounts at some point after April 2017, Mr. Lasinski is including in his unjust enrichment Google's revenue for ads that Google may have displayed to these accountholders before they had a Google account.

69.   In fact, publicly available information and case evidence suggest that the number of users with Google accounts may have increased over the class period. For example, the number of global active Gmail users grew from 1 billion in February 2016 to 1.8 billion in January 2020, or at an annual rate of approximately 16 percent during the period.[101] Internal Google documents produced in this action indicate that there were ▮▮▮▮ active accounts (including Gmail) in April 2018 and ▮▮▮▮ in December 2020 worldwide, which represents an annualized growth rate of approximately ▮▮▮▮.[102] Finally, internal Google documents produced in this case indicate that the number of newly activated accounts increased from ▮▮▮▮ accounts in February 2019, to ▮▮▮▮ accounts in July 2020, which is an annualized growth rate of approximately ▮▮▮▮ in the number of newly activated accounts.[103]

70.   In addition, I understand from Google's expert Dr. On Amir that Mr. Keegan's survey results related to the question of whether a user used a private browsing mode or had a Google account in the previous five years are unreliable because they are based on the respondent's recall over a time horizon which Dr. Amir deemed overly broad for a non-salient event such as browsing the internet.[104] According to Dr. Amir, the affirmative answers from Mr. Keegan's

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[101] "Number of Active Gmail Users 2022/2023: Statistics, Demographics, & Usage," FinancesOnline, available at https://perma.cc/83ZR-NXB7. *See also,* "Number of active Gmail users worldwide from January 2012 to October 2018," Statista, available at https://perma.cc/GH8X-S6DJ; Jennifer Elias and Magdalena Petrova, "Google's rocky path to email domination," CNBC, October 26, 2019, available at https://perma.cc/QG2J-GSWB.

[102] *See* GOOG-BRWN-00480203–236 at 205; GOOG-CALH-01020283–315 at 284.

[103] GOOG-CALH-01020091-123 at 104.

[104] Amir Rebuttal Report, ¶¶ 82–87.

survey respondents may be guesses from the list of options available, may result from having been

led by Mr. Keegan's questions, or may be the result of false memories.[105] As a result, the

percentage of class members with a Google account that Mr. Lasinski uses in his calculations is

unreliable and overstated, which, as explained above, leads him to overstate Google's alleged

unjust enrichment.

71.   The evidence described above shows that it is inappropriate to use Mr. Keegan's

unreliable statistics as a measure of the fraction of class members with Google accounts in each

year since 2016.

C.   Even assuming Mr. Lasinski's method for calculating Google's unjust enrichment was reliable and non-speculative, which it is not, his calculation grossly overstates Google's profits obtained from the At-Issue Data

1.   Mr. Lasinski fails to subtract costs that Google incurred to earn the allegedly unjust revenue that he calculates

72.   Mr. Lasinski's methodology for calculating Google's alleged unjust enrichment

represents his estimate of the revenue that Google earned from the alleged wrongful acts and does

not account for any costs that Google incurred to earn that revenue,[106] such as Google's payments

to publishers for ads displayed on their websites, payments to distribution partners who make

Google search available to their users, and payments to providers of licensed content on

YouTube.[107] Mr. Lasinski acknowledges that Google may "present evidence of costs, expenses,

and other deductions to show the actual or net benefit the defendant received."[108]

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[105] Amir Rebuttal Report, ¶¶ 82–87.

[106] Lasinski Report, ¶ 51.

[107] Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2020, p. 38.

[108] Lasinski Report, ¶ 51.

73.   As discussed below, I use two measures of costs to account for the costs Google incurred to earn the allegedly unjust revenue. The first measure includes all costs Google would have incurred to generate the allegedly unjust revenue. This measure is consistent with the costs Google took into account when calculating the impact of loss of third-party cookies on its profit in a 2019 impact analysis. Specifically, Google calculated that its profit (*i.e.*, enrichment) from third-party cookies is equivalent to its net profit margin, which is the profit rate after Google pays for the Cost of Sales, S&M, G&A, R&D and other costs. Google's net profit margin averaged approximately ▮▮▮▮▮ during the class period, which means that, assuming liability on Plaintiffs' claims, Google incurred ▮▮▮▮ in total costs from every dollar of allegedly unjustly earned revenue.

74.   The second, alternative measure of costs includes only the incremental costs that Google would have incurred to generate the allegedly unjust revenue. I calculate that Google incurs ▮▮▮▮ in incremental costs for each additional $1 in revenue that Google generates using a statistical method called regression analysis. This means that, during the class period, assuming liability on Plaintiffs' claims, Google earned ▮▮▮▮ in alleged unjust enrichment from every dollar of unjustly earned revenue.

75.   In the section below, I first summarize the different types of expenses that Google incurs.[109] Then, I explain why, from an economic perspective, it is necessary to subtract costs incurred to generate the allegedly unjust revenue for purposes of calculating unjust enrichment. Finally, I describe how I quantify the costs Google incurred to generate the allegedly unjust

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[109] I use the words costs and expenses synonymously.

revenue under two methods and calculate Google's unjust enrichment correcting only for Mr. Lasinski's failure to subtract costs.

> a.   *Google incurs substantial costs to generate revenue that should be taken into account when calculating Google's unjust enrichment*

76.   In general, a company cannot generate revenue without incurring any costs, and Google, like other companies, incurs many types of costs in order to generate revenue. Google's primary cost categories reported in its annual reports filed with the Securities and Exchange Commission are "Cost of Revenues," "Sales and Marketing Expenses" ("S&M"), "General and Administrative Expenses" ("G&A"), and "Research and Development Expenses" ("R&D"). See **Exhibit 3.A**.

77.   Google's largest expense category is Cost of Revenues. In Google's case, for example, every time a publisher sells an ad inventory on its website to an advertiser using a Google product, the advertiser does not pay the publisher directly. Instead, the advertiser pays Google and then Google pays the publisher the publisher's portion of the ad revenue generated from the ad inventory and records this payment as a Cost of Revenue on its financial statements.[110]

78.   On average, for every dollar of revenue that Google generated from 2016 to 2021, it incurred 43.6 cents in expenses that are categorized as Cost of Revenues. *See* **Exhibit 3.A**. As the name implies, the Cost of Revenues cost category pertains to direct costs that Google incurs to generate revenue. This cost category includes costs such as traffic acquisition costs and content

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[110] For example, when an advertiser purchases $100 worth of ad inventory on the New York Times ("NYT") website through Google's products, then the advertiser pays $100 to Google and Google records this amount as revenue. Google's revenue sharing agreement with the NYT obligates it to pay the majority of this revenue to the NYT. Assume, hypothetically, that the Google-NYT revenue sharing agreement specifies that the amount the advertiser pays will be split such that Google keeps 32 percent and the NYT keeps 68 percent. In that case, for every $100 in ad revenue Google records on its financial statements, Google must pay $68 to NYT, and this $68 would be classified as Google's traffic acquisition costs.

acquisition costs. Traffic acquisition costs are costs that Google pays to Google Network Members for ads displayed on their properties and to Google's distribution partners (*e.g.*, browser providers, mobile carriers, original equipment manufacturers, and software developers) for making Google's search access points and services available to their respective customers or users.[111] Content acquisition costs primarily consist of payments to content providers from whom Google licenses video and other content for distribution on YouTube, subscription services, and Google Play. Google's cost of revenue does not include expenses related to sales commissions, which typically vary with revenue, software development costs,[112] advertising and promotional expenses, and costs of property and equipment.[113]

79.   Google's S&M, G&A and R&D costs represented 31 percent of Google's revenue from June 2016 to 2021. Google's S&M expenses consist primarily of advertising and promotional expenditures related to Google's products and services, as well as compensation expenses and facilities-related costs for employees engaged in sales and marketing, sales support, and certain customer service functions.[114] Google's G&A expenses consist primarily of compensation expenses and facilities-related costs for employees in Google's finance, human resources, information technology, and legal organizations; depreciation expense; equipment-related expenses; legal-related expenses; and professional services fees primarily related to audit, information technology, consulting, outside legal, and outsourcing services.[115] Google's R&D

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[111] Google, "Chrome Monetization: Deck Outline," February 04, 2020, GOOG-CABR-04406227-235 at 229; Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2019, p. 35.

[112] These software development costs are for software that is marketed to external customers and software that is used internally by Google. Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2020, p. 61.

[113] Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2020, pp. 60–64.

[114] Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2019, p. 36.

[115] Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2019, pp. 36-37.

expenses consist primarily of compensation expenses and facilities-related costs for engineering

and technical employees responsible for research and development of existing and new products

and services, depreciation expenses, equipment-related expenses, and professional services fees

primarily related to consulting and outsourcing services.[116]

80.   Google's cost of revenue, along with many other costs, must be taken into account

when calculating Google's unjust enrichment because failure to do so would result in class

members receiving a higher amount in unjust enrichment than the benefit Google actually obtained

from the alleged wrongful acts. As a result, Google's unjust enrichment should be calculated as

the difference between Google's unjustly earned revenue and the costs Google incurred to generate

that revenue.

                  b.   *Quantification of the costs Google incurs to generate the allegedly unjust revenue*

81.   When assessing the impact of the loss of third-party cookies on Google's profit in

an internal analysis conducted in 2019, Google calculated that its profit (*i.e.*, enrichment) from

third-party cookies is equal to approximately ▮▮▮▮▮▮ of the revenue Google earned in 2019 on

the basis of third-party cookies.[117] This profit rate of ▮▮▮▮nt is Google's net profit margin,

which is the profit rate after Google pays for the Cost of Sales, S&M, G&A, R&D, European

Commission Fines, Net Other Income and Provision for Income Taxes. From June 2016 to

December 2021, Google's net profit margin averaged ▮▮▮▮▮▮▮. **Exhibit 3.A.**

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[116] Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2019, p. 36.

[117] GOOG-CALH-00030603–606 at 603. Google used a ▮▮▮▮▮ profit rate in a 2019 impact analyses whose objective was to "[e]stinate the revenue lift impact to AdManager publishers from the first launch of GPF cookie-based Fcap [frequency capping] on Ad Manager + DV3 over Safari browsers, when 3P cookies are missing."

82.   Using Mr. Lasinski's estimate of unjust revenue (without adjusting for any of the other issues in his model discussed below that cause his estimate of unjust revenue to be overstated) and applying Google net profit margin of ███████ over the class period, Google's unjust enrichment would range between ████████████████████. These values are based on the minimum and maximum values that Mr. Lasinski calculates as Google's unjust revenue.

83.   If, instead of deducting total costs, the Court determines that Google is only entitled to deduct incremental (or variable) costs it incurred to generate Mr. Lasinski's estimates of allegedly unjust revenue, then Google's unjust enrichment would range between ████████ ████████ (without adjusting for any of the other issues in his model).

84.   I calculate the amount of incremental costs Google incurs for each additional dollar in revenue it earns using the statistical method of regression analysis.[118] Regression analysis is used to summarize the relationship between two or more variables of interest, in this case revenue and total costs.[119] Regression analysis is a tool that is commonly used by economists to estimate incremental costs. It is appropriate to use in this case because it allows for a scientific examination of the relationship between costs and revenues regardless of the cost category in which variable expenses are recorded.

85.   Using regression analysis and data from Google's quarterly financial statements from Q3 2016 through Q1 2021, I find that Google on average incurred █████ in incremental costs for each additional dollar in revenue it generated.[120] This means that, during the class period,

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[118] *See* **Exhibit 2.B and Exhibit 4**.

[119] Wooldridge, Jeffrey M., *Introductory Econometrics: A Modern Approach*. 5th ed. Mason: South-Western Cengate Learning, 2013, pp. 22-26.

[120] *See* **Exhibit 4**.

Google earned ▇▇▇▇▇ in alleged unjust enrichment (i.e., incremental profit) from every dollar of allegedly unjustly earned revenue.

> 2.   *Mr. Lasinski overstates class-wide unjust enrichment because he overstates the percentage of traffic in private browsing mode*

86.   Mr. Lasinski relies on Google's UMA data and Mr. Keegan's survey results to calculate the percentage of traffic in private browsing modes across browsers. Specifically, Mr. Lasinski calculates that, in 2020 and 2021, ▇▇▇▇▇ of Chrome traffic is in Incognito mode,[121] and assumes that the same share of Chrome traffic was in private browsing mode every year during the class period.[122] To estimate the share of Edge and Safari traffic in private browsing mode, Mr. Lasinski adjusts his estimate of the share of Chrome traffic in private browsing mode (▇▇▇▇▇) using information about the difference in private browsing mode usage among users of Chrome, Safari and Edge from the results of the survey performed by Plaintiffs' Expert Mr. Mark Keegan in 2022.[123] Using this methodology, Mr. Lasinski estimates the share of Safari and Edge traffic in

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[121] Lasinski Report, ¶¶ 67, 70. The ▇▇▇▇▇ assumed Incognito traffic share to be ▇▇▇▇▇. Mr. Lasinski argues that because this reflects worldwide traffic and was based on a 28-day sample of partial-year 2020 data, he needs to recalculate the traffic share using recently produced data covering the period August 1, 2020 through December 31, 2020. *See* Lasinski Report, ¶ 67. To do this, Mr. Lasinski uses sample Chrome browser pageloads in all device types (e.g., Windows, Mac, Android, iOS, ChromeOS, and Linux) between August 2020 to December 2021 as reported in UMA data. Mr. Lasinski then rescales the sample pageloads based on the ratios of users that report UMA data, which varies by device type. Then, based on the rescaled total pageloads, Mr. Lasinski calculates the Incognito share of pageloads by dividing Incognito pageloads by total pageloads in all modes (e.g. Regular, Incognito, and OTR/Guest). *See* Lasinski Report, Schedule 11.1.

[122] Lasinski Report, Schedule 5.6, 8.5.

[123] Mr. Keegan found that the share of Chrome users who used a private browsing mode in the last five years is 64.11 percent, which is greater than the shares for Safari (59.15 percent) and Edge (40.32 percent). *See* Lasinski Report, Schedule 22.1. Based on these results, Mr. Lasinski assumes the traffic share of Safari users in private browsing mode is ▇▇▇▇▇ of Chrome's ▇▇▇▇▇ traffic share in Incognito, and the traffic share of Edge users in private browsing mode is ▇▇▇▇▇ of Chrome's Incognito traffic share. *See also* Keegan Report, ¶ 59; Lasinski Report, Schedule 22.1.

private browsing mode to be ███████████, respectively. He assumes these shares remain

constant over the entire class period.[124]

87.   Mr. Lasinski overstates Google's unjust enrichment because he assumes,

incorrectly, that the traffic shares in private browsing modes remained constant over the class

period. Case evidence indicates that the general usage of Incognito increased over time. An internal

Google email shows that the number of unique browser instances through which users accessed

Incognito increased by ███████ between November 2018 and November 2019.[125] Over the

same period, the total number of unique Chrome instances in the U.S. increased by only about ██

██████.[126] This indicates that the number of existing Chrome instances that accessed Incognito

mode over this period increased.

88.   Case evidence also indicates that the share of traffic in private browsing mode has

increased over time. The Google email I reference in the above paragraph also indicates that

Incognito page loads increased by ████████ between November 2018 and November 2019.[127]

According to the UMA data, the number of unique Chrome instances through which Incognito was

accessed is highly correlated with the number of Incognito page loads.[128] This suggests that the

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[124] *See* Lasinski Report, ¶ 70, Schedules 2.6, 3.6, 4.6, 5.6, 6.6, 7.6, 8.5. Mr. Keegan found that the share of Chrome users who use private browsing mode is 64.11 percent, which is greater than the shares for Safari (59.15 percent) and Edge (40.32 percent). *See* Lasinski Report, Schedule 22.1. Based on these results, Mr. Lasinski assumes the traffic share of Safari users in private browsing mode is ████ percent of Chrome's ████ traffic share in Incognito, and the traffic share of Edge users in private browsing mode is █████████ of Chrome's Incognito traffic share.

[125] GOOG-BRWN-00617282.

[126] For comparison, according to Google's Responses to Plaintiffs' Interrogatory No. 36 that Mr. Lasinski relies upon, the total number of Chrome instances in the U.S. increased from █████████ in November 2018 to █████ ██████ in November 2019. This is an increase of about █████████ in the same period that Incognito instances increased by █████████ This shows that the fraction of Chrome instances that browsed in Incognito must have increased during that period. *See* Lasinski Report, Schedules 17.3 and 17.4. █████████ Chrome Instances in November 2018 / █████████ Chrome Instances in November 2019 – 1 = █████████.

[127] GOOG-BRWN-00617282.

[128] *See* **Exhibit 5.**

growth in the number of unique Chrome instances through which users accessed Incognito was associated with an increase in the number of Incognito page loads relative to page loads in other browser modes.[129]

89.   One conservative adjustment that could be made to Mr. Lasinski's model to account for the growth in private browsing mode usage is to assume that the share in private browsing mode increased only from November 2018 to November 2019 and remained the same in other periods (*that is*, the share of traffic in private browsing mode did not change between June 2016 to November 2018 or between November 2019 and December 2021). *See* **Exhibit 6**. Doing so would decrease the minimum amount of estimated unjust enrichment in Mr. Lasinski's model from ███████████████████████████ (or by ██████████) and the maximum amount of unjust enrichment in Mr. Lasinski's model from ████████████████████████ (or by ██████████) (without adjusting for any of the other issues in his model). This decrease is before I correct Mr. Lasinski's model for other issues that I describe in **Section VI.C**.

90.   If one assumes that the percent change in Incognito traffic from November 2018 to November 2019 is representative of the percentage change in Incognito traffic from June 2016 to November 2018,[130] then the minimum amount of unjust enrichment in Mr. Lasinski's model would decrease from ████████████████████████ (or by ██████████) and the maximum amount of unjust enrichment in Mr. Lasinski's model would decrease from ████████████████████ (or by ██████████) (without adjusting for any of the other issues in his model).

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[129] I understand that, typically, a Chrome instance is a Chrome browser installed on one device.

[130] *See* **Exhibit 6**.

3. *Mr. Lasinski's unjust enrichment is overstated because he overstates the impact of autobidding on Google's revenue*

91.   Mr. Lasinski's calculation of Google's unjust enrichment from conversion tracking is dependent on his assumptions about how third-party cookies affect the share of Google's Display, Search, and YouTube revenue that may be attributable to bidding. Mr. Lasinski overstates Google's unjust enrichment because he assumes that the effect of conversion-based autobidding on Google's revenue from different products has remained constant over the class period, which is not the case. Below, I describe the different types of bidding at Google and how each affects Google's revenue from Display, Search, and YouTube Ads. Then I explain why Mr. Lasinski's unjust enrichment is overstated and quantify the effect of Mr. Lasinski's error on his estimate of Google's unjust enrichment.

a. *Background on the effect of bidding on Google's revenue from different products*

92.   In general, Google runs an auction every time an ad space is available for purchase by advertisers. During the auction, advertisers bid for the right to display their ad in the ad space if their marketing strategies are aligned with the characteristics of that ad space (*e.g.*, size, location, website on which ad space is available) and the user who would be viewing the ad space.

93.   There are three bidding methods: manual bidding, conversion-based autobidding, and non-conversion based autobidding. The manual bidding method allows advertisers to manually set the maximum price they are willing to pay for the ad space, to set separate bids for

individual keywords, ad groups, and placements, and to select what portion of their advertising budget they would like to allocate to different keywords.[131]

94.   For advertisers that are unsure which keywords or placements are most profitable or do not have time to manage bids manually, Google offers automated bid strategies (a.k.a. autobidding) that automatically set bid prices based on various factors like the likelihood of an ad resulting in a click or conversion.[132] Autobidding uses machine learning to automate and optimize ad campaigns, allowing advertisers to optimize towards click-through conversions or non-conversion based algorithms.[133] Autobidding may set bid prices for a particular ad based on a number of auction-time signals that include the user's location, time of day, whether the user is on a remarketing list, the user's language, and/or the user's operating system.[134] As the name implies, the difference between conversion-based autobidding and non-conversion-based autobidding is that the former is tied to conversions (that is, clicks converted to purchases or services) and the latter is not.[135]

95.   Autobidding was first launched in 2007 as "Conversion Optimizer,"[136] but the features available for automation and the advertiser's acceptance of autobidding has expanded over time. For example, in 2010, Google expanded autobidding to allow advertisers to set a target

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[131] Google Ads Help, "Manual CPC bidding," available at https://perma.cc/6SHE-ZHHE.

[132] Google Ads Help, "Automated bid strategy: Definition," available at https://perma.cc/ZZ2S-34M6; Google Ads Help, "Manual CPC bidding," available at https://perma.cc/6SHE-ZHHE.

[133] Google, "How to lead in a data-centric era?," GOOG-BRWN-00203888-938 at 921; Deposition of Christophe Combette, April 27, 2022, p. 36-40.

[134] Google Ads Help, "Automated bid strategy: Definition," available at https://perma.cc/ZZ2S-34M6.

[135] Google Ads Help, "Automated bid strategy: Definition," available at https://perma.cc/ZZ2S-34M6.

[136] Google AdWords, "Target CPA Bidding: A new way to meet your ROI goals with Conversion Optimizer," May 3, 2010, available at https://perma.cc/H7FX-N3C5.

average cost per auction ("CPA").[137] In 2016, Google launched "Smart Bidding," which was the new name for Google's conversion-based automated bidding process and included many new bidding signals that gave advertisers a "richer view of user context."[138] This new product also included new "Target CPA" options that allows advertisers to target different CPAs by device.[139] At the time of this launch in 2016, Google was "keen to drive autobidding / automation as widely and quickly as possible across [Google's] advertiser base"[140]

96.   Autobidding continued to grow over time. For example, in 2017, Google noted in an internal document that "[f]ull conversion based autobidding usage [was] at ▆▆▆▆▆ of LCS [Large Customer Sales] spend ▆▆▆▆▆) and ▆▆▆ of GMS [Google Mobile Services] spend ▆▆▆▆▆."[141] In other words, the year-over-year growth rate of conversion-based autobidding was between ▆▆▆▆▆▆▆, depending on the customer group. In 2018, Google reported in an internal document that it "grew autobidding adoption from ▆▆▆▆▆ for DoubleClick Search for advertisers from 2017 to 2018.[142]

97.   Google reported to have experienced "unexpected" and "fast" growth of autobidding during the class period,[143] and described the growth of conversion-based autobidding

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[137] Google AdWords, "Target CPA Bidding: A new way to meet your ROI goals with Conversion Optimizer," May 3, 2010, available at https://perma.cc/H7FX-N3C5. For example, an advertiser could target an average CPA of $1.25, and if their campaign had two conversions, the autobidding algorithm could bid $2 for one ad space and $0.5 for another, for an average bid of $1.25.

[138] Google Ads & Commerce Blog, "Get more powerful bid automation with new AdWords Smart Bidding," Jul 25, 2016, available at https://perma.cc/H7FX-N3C5.

[139] Google Ads & Commerce Blog, "Get more powerful bid automation with new AdWords Smart Bidding," Jul 25, 2016, available at https://perma.cc/H7FX-N3C5.

[140] GOOG-CABR-03627280-286 at 280.

[141] GOOG-CABR-03630076-173 at 119.

[142] GOOG-CABR-03630076-173 at 103.

[143] GOOG-BRWN-00439740-745 at 740; GOOG-BRWN-00428101-123 at 106.

as "unprecedented."[144] Indeed, the ██████████████████████████████

███

████████████.[145]

> b.   *The effect of different bidding strategies on Google's revenue from different products*

98.   Different bidding methods affect Google's revenue from different products differently.[146] ████████████████████████████

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███████████████████.[147] ██

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██[148]

99.   Moreover, the changes Google implemented with ████████████ were expected to affect different bidding methods differently. ████████████████████████████

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██

████████████.[149] ███

██

[144] GOOG-CABR-05161563-79; GOOG-BRWN-00428101-123; GOOG-BRWN-00439740-745 at 740.

[145] GOOG-CABR-X-00000753-764 at 761.

[146] GOOG-CABR-04324934-–944 at 936-940.

[147] GOOG-CABR-04324934-–944 at 938.

[148] GOOG-CABR-03635725, sheet "YouTube."

[149] GOOG-CABR-04324934–944 at 938.
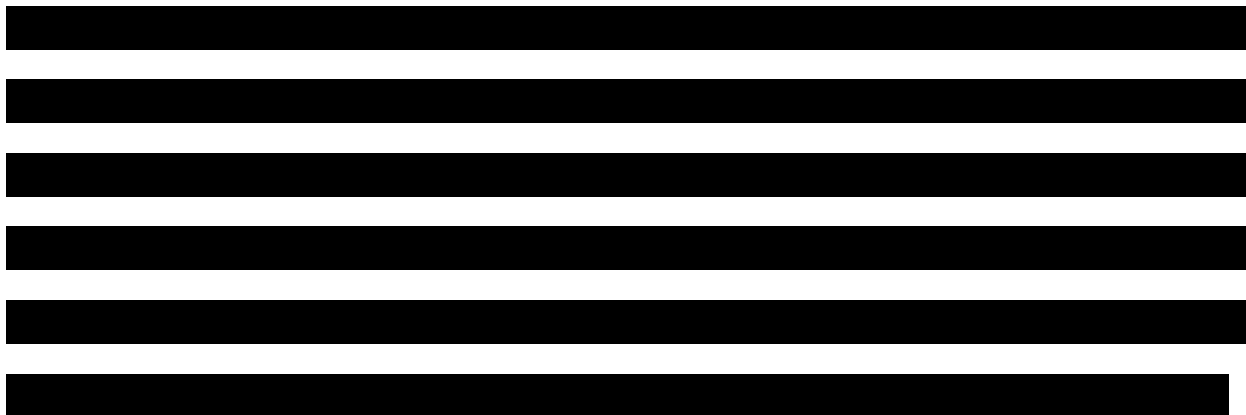
Figure 1

        c.   *Mr. Lasinski's calculation of Google's unjustly earned revenue is overstated because he assumes that the effect of* ▮▮▮▮▮▮▮▮ *on revenue from different bidding methods that Google estimated for year 2020 based on inputs for 2020 would apply to prior years despite evidence that Google's revenue from autobidding has increased over time*

100.   For each of the three at-issue products, Mr. Lasinski assumes that the proportion of Google's revenue that came from different bidding methods was the same as in 2020. This is an unreasonable assumption given that: (1) ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

██████████ and (2) conversion-based autobidding grew at an "unprecedented" rate over the class period.[150] Mr. Lasinski's assumption overstates Google's alleged unjust enrichment.

101.   Assuming autobidding grew from 2016 to 2020 at the same annualized rate it grew in 2020[151] and that the growth in Search Ads autobidding came at the expense of manual bidding (which is a conservative assumption),[152] then Mr. Lasinski's failure to properly account for the growth of contribution of autobidding alone reduces his minimum amount of unjust revenue from ███████████████████████ (or by ██████████) and his maximum amount of unjust enrichment from ███████████████████████ (or by ██████████) (without adjusting for any of the other issues in his model).[153]

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[150] Specifically, Mr. Lasinski assumes that "autobidding share of Google [U.S.] Display Ads attributable to conversion tracking" was ██████████ in each year from 2016 to 2021, and that this share is the same for Chrome, Safari and Edge. Lasinski Report, ¶¶ 81, 87. With respect to Search Ads, Mr. Lasinski assumes that the "share of Google U.S. Search Ads revenue driven by conversion tracking" was ██████████ from 2016 to 2019, and ██ ██████████ in 2020 and 2021. The difference between the two numbers is that he is using the estimates of conversion-based autobidding at the beginning of 2020 for the 2016 to 2019 period and the estimate for the conversion-based autobidding as of the April/May period in 2020 as an estimate for 2020 and 2021 Lasinski Report, ¶¶ 121, 126; Lasinski Report, Schedule 8.7. With respect to YouTube Ads, Mr. Lasinski assumes that the "autobidding share of Google U.S. YouTube Ads attributable to conversion tracking" is ██████████. Lasinski Report, ¶¶ 104,110.

[151] ██ GOOG-CABR-X-00000753-764 at 761. Assuming this growth rate was constant back to the beginning of the Class period, conversion-based autobidding would have been ██████████ as of June 1, 2016. This approach results in numbers that are consisten with the growth Google reported in conversion-based autobidding during the class period in GOOG-CABR-03630076 (summarized in **Section VI.C.2.a** above).

[152] *See* **Exhibit 7**. This is a conservative assumption because, following Mr. Lasinski's assumption, I assume ██ ██████████ of manual bidding relies on third-party cookies and ██████████ of non-conversion based autobidding is based on third-party cookies. For Display Ads and YouTube Ads, consistent with both the ██████████ and Mr. Lasinski, I only evaluate the share of conversion-based autobidding which relies entirely on third-party cookies.

[153] In each year and for each type of ad revenues, I use the projected revenue share of conversion tracking as of mid-year. For the Search Ads share of conversion tracking, I assume both conversion-based and non-conversion based autobidding were growing at the growth rate in 2020, and that the existing shares were from manual bidding such that the conversion-based autobidding share, the non-conversion based autobidding, and the manual bidding share add up to 100 percent.

> **4.**   *Summary of the combined effect of the quantified errors in Mr. Lasinski's calculation of alleged unjust enrichment*

102.   Accounting for (a) the issues in Mr. Lasinski's model that cause his unjust revenue to be overstated; and (b) the total costs Google incurred to generate the allegedly unjust revenue decreases Google's unjust enrichment to between ███████████████████████████. *See* **Figure 2**. This means that Mr. Lasinski's unjust enrichment is overstated by at least between ███████████ and ███████████. **Exhibit 8** shows Mr. Lasinski's unjust enrichment for each of his scenarios with the following assumptions: (1) account for Google's total costs incurred to generate revenue, which results in a ███████████ profit margin, (2) account for growth in traffic shares in private browsing mode assuming the percent change in Incognito traffic from November 2018 to November 2019 is representative of the percentage change in Incognito traffic from 2016 to 2018, and (3) account for growth in autobidding.[154]

Figure 2
Summary of Quantifiable Adjustments to Mr. Lasinski's Alleged Unjust Enrichment Damages Using Google's Net Profit Rate, Assuming Private Browsing Usage Increased from 2016 to 2019, and Autobidding Grew over the Class Period

	Lasinski's Value	Partially Corrected Unjust Enrichment	Difference between Lasinski's and Partially Corrected Unjust Enrichment
Unjust Enrichment from Personalization and Conversion Tracking from Traffic with 3P Cookies	████	████	████
Unjust Enrichment from Personalization from Traffic with 3P Cookies and Conversion Tracking From All Traffic	████	████	████
Unjust Enrichment from All Display Ad Traffic and from Search Ad and YouTube Ad Personalization from Traffic with 3P Cookies and Conversion Tracking from All Traffic	████	████	████

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[154] **Exhibit 10.B** shows the calculation of each of these scenarios for each product (Display Ads, Search Ads, and Youtube Ads) and browser (Chrome, Safari, Edge) combination.

103.   If instead the Court determines that Google is only entitled to deduct incremental costs from the alleged unjustly earned revenues, then Google's unjust enrichment corrected for the issues in Mr. Lasinski's model ranges between ███████████████████, which is between ███████████████ less than Mr. Lasinski's estimates. *See* **Figure 3**. **Exhibit 9** shows Mr. Lasinski's unjust enrichment for each of his scenarios with the following assumptions: (1) account for Google's incremental costs to generate revenue, which results in a ████████ profit margin, (2) account for growth in traffic shares in private browsing mode for November 2018 and November 2019 only, and (3) account for growth in autobidding.[155]

Figure 3
Summary of Adjustments to Mr. Lasinski's Alleged Unjust Enrichment Damages Using Google's Incremental Costs, Assuming Private Browsing Usage Increased from 2018 to 2019, and Autobidding Grew over the Class Period

	Lasinski's Value	Partially Corrected Unjust Enrichment	Difference between Lasinski's and Partially Corrected Unjust Enrichment
Unjust Enrichment from Personalization and Conversion Tracking from Traffic with 3P Cookies	███	███	███
Unjust Enrichment from Personalization from Traffic with 3P Cookies and Conversion Tracking From All Traffic	███	███	███
Unjust Enrichment from All Display Ad Traffic and from Search Ad and YouTube Ad Personalization from Traffic with 3P Cookies and Conversion Tracking from All Traffic	███	███	███

D.   Mr. Lasinski has not proposed a reliable method for allocating unjust enrichment damages to class members in proportion to the harm they suffered or their contribution to Google's alleged unjust enrichment

104.   Mr. Lasinski suggests that a claims administrator could allocate Google's unjust enrichment to class members "by first dividing the total" unjust enrichment "by the total number

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[155] **Exhibit 10.C** shows the calculation of each of these scenarios for each product (Display Ads, Search Ads, and Youtube Ads) and browser (Chrome, Safari, Edge) combination.

of [browser instances] during the class period," and then distributing "the resulting dollar value of unjust enrichment… to Class members in the claims administration process as a function of number of [browser instances] deemed attributable to each Class member."[156] I refer to this method as the "Instance-based Method." He claims that alternatively, the claims administrator could calculate the unjust enrichment by class member by dividing the class-wide unjust enrichment by the number of class members. I refer to his alternative method as the "Class member-based Method."[157]

105.   Both of Mr. Lasinski's proposed allocation methods are severely flawed and unreliable because they fail to (1) compensate class members in proportion to the harm they suffered or their contribution to Google's unjust enrichment and (2) account for significant variability in the extent to which different class members contributed to Google unjust enrichment.

106.   Google received significantly more data for some class members than others. Further, Google earned significantly more revenue and profit from some class members than others. Despite these differences that are not a function of how many browser instances a class member is associated with, Mr. Lasinski's Instance-based Method for allocating unjust enrichment assumes that a class member with more browser instances is entitled to a larger portion of the class-wide unjust enrichment than a class member with fewer browser instances, even if Google may have received the same amount and type of data and earned the same profits from both class members. And Mr. Lasinski's Class member-based Method would award the same unjust enrichment to a class member who browses exclusively in private browsing mode and sees many

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[156] Lasinski Report, ¶ 197.

[157] Mr. Lasinski does not discuss if and how class members can be personally identified. I understand that Google's expert Dr. Konstantinos Psounis opines that class members cannot be identified using Google's data.

ads on a daily basis, as to a class member who is new to private browsing mode and uses all possible user controls to block data collection, ad personalization, and ads. Neither of his methods is economically reliable.

1.   *Google received different amount of data from different class members*

107.   The amount of data Google received from each class member—even for a similar browsing session—varies significantly across class members. There are many factors that contribute to the variation in the amount of At-Issue Data Google received from different class members.

108.   *First*, the amount of data Google collected from each user depends on each user's reliance on user controls that prevented Google from receiving data. For example, if a class member blocked third-party cookies using cookie-blocking settings available to users who used private browsing modes on Chrome, Safari, and Edge, then Google would not receive any data from third-party cookies.[158] Consequently, Google would have less data for this class member than for a class member who did not prevent Google from receiving third-party cookies but was otherwise identical. Other user controls that affected the amount of At-Issue Data include various

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[158] Expert Report of Georgios Zervas, PhD, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-YGR, April 15, 2022 ("Zervas Report"), ¶¶ 125-127.

extensions,[159] disabling Javascript in the browser's built-in settings,[160] VPNs,[161] and Google Ad settings.[162]

109.   *Second*, class members vary in the frequency with which they browse using private browsing mode. Some class members may exclusively browse in private modes, while others may use private browsing mode sparingly (*e.g.*, only when accessing adult content websites). One study conducted by Duck Duck Go in 2017 found that 30 percent of internet users browsed using private browsing mode daily, 25 percent browsed using private browsing mode only once a week, 10 percent used it only once a month, and 30 percent used private browsing on a "rare occasion."[163] Other things being equal, the more frequently a class member browses using private browsing mode, the more At-Issue Data Google would receive for the class member. Thus, all else equal,

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[159] Zervas Report, ¶¶ 102, 114, 136-141. For example, users could install the "Google Analytics Opt-out Browser Add-on" which prevents Google Analytics code from transmitting information to Google Analytics. Zervas Report, ¶ 102. As another example, users could install Ad Blocker extensions or the Interest-Based Advertising (IBA) Opt-out extension which would alter the flow of data to Google Ad Manager. Zervas Report, ¶ 114.

[160] Zervas Report, ¶¶ 103, 128-135.

[161] Zervas Report, ¶¶ 105, 142-147.

[162] Zervas Report, ¶¶ 115. For example, users can visit Google Ad Setting, Ad personalization settings, available at https://perma.cc/PZ2N-GGQN.

[163] *See*, Duck Duck Go, "A Study on Private Browsing: Consumer Usage, Knowledge, and Thoughts," January 2017, available at https://perma.cc/3Q3N-RZFE, p.7. The variation among class members with respect to the frequency with which they browse using private mode is also evident from Plaintiffs'' deposition testimonies. For example, Plaintiff Davis utilizes a Google tool so that Chrome browser automatically launches in Incognito mode and does the "overwhelming majority" of his browsing activity in private browsing mode. Davis Depo, p. 34-35, Plaintiff Jeremy Davis' Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-LHK-SVK. Plaintiff Brown began using private browsing mode two years ago, and now uses Incognito "at least a few times per month" on laptop and "at least a few times per month" on his phone. Plaintiff Chasom Brown's Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-LHK-SVK. Plaintiff Byatt uses Incognito "approximately one hour each day" and Plaintiff Castillo uses Incognito "approximately two or three times per week." Plaintiff Christopher Castillo's Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-LHK-SVK; Plaintiff William Byatt's Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC*, Case No. 5:20-cv-03664-LHK-SVK.

Google would receive more At-Issue Data from a class member who used private browsing mode daily than a class member who used private browsing mode sparingly.

110.   *Finally*, class members vary with respect to the time they spend browsing when in a private browsing mode session. This is evident from the UMA data, which Mr. Lasinski uses to calculate the number of browser instances that class members used to access private browsing mode. The UMA data shows that approximately ███████ of Incognito sessions on Windows last less than 15 minutes each, approximately ███████ last between 15 minutes and three hours, and the remaining ███████ last more than three hours.[164] The lengths of Incognito sessions on Android have a similar distribution.[165]

111.   As a result, variation in the user controls class members used and the amount of time class members spent browsing in private browsing mode would cause significant variation in the amount of At-Issue Data Google received from each class member.

> **2.   *Google earned different amount of revenue and profit from different class members***

112.   Multiple factors affect the quantity and quality of ads that Google could show to each user, and consequently the amount of unjust revenue it earned. These factors include (a) the amount of time a user spends browsing in private browsing mode, (b) the user controls a user utilized, (c) the degree to which a user interacts with ads, and (d) the characteristics of the user.

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[164] *See* GOOG-CABR-04486714, sheet "Lifetime duration - Windows."

[165] *See* GOOG-CABR-04486714, sheet "Lifetime duration - Android." Specifically, ███████ last less than 15 minutes each, ███████ last between 15 minutes and three hours, and the remaining ███████ last more than three hours.

Variation in any of these factors across class members would cause variation in the amount of revenue Google was able to generate from their browsing in private browsing mode.

113.   The amount of time that a user who did not prevent Google from displaying ads spends browsing in private browsing mode affects the number of ads Google could show to the user, and, therefore, the ad revenue Google could earn from the user. This is because Google does not earn any ad revenue when class members were not browsing and does not earn any unjust revenue when class members were not browsing in private browsing mode. As a result, Google was in the position to earn significantly more revenue from ads displayed to a class member who spent a significant amount of time browsing in private mode, than from a class member who browsed in private mode only once during the class period and for a short browsing session, other things being equal.

114.   In addition, the amount of time that a user who did not prevent Google from displaying or personalizing ads spends browsing in private mode also affects the quality of the ads Google could show to the user. As Mr. Lasinski acknowledges, Google generally generates more revenue from ads personalized using data from cookies associated with longer browsing sessions than shorter browsing sessions.[166] Every new private browsing session starts with a new set of cookies, and cookies set in prior sessions are not accessible.[167] I understand that Google uses data only from the current private browsing session to personalize ads. In other words, information about the user's preferences from other private and non-private browsing sessions does not affect the personalization of ads in the current session. Thus, a private browsing session that is open for a longer period and is used to navigate to more pages would generally be more valuable to Google

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[166] Lasinski Report, ¶¶ 74–75.

[167] Zervas Report, ¶¶ 4-5.

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than a shorter browsing session because Google can learn more about the user's preferences during the longer browsing session. This in turn means Google could earn more revenue from class members who typically use longer private browsing sessions than those who use shorter private browsing sessions, and the variation in the length of each private browsing session would cause variation in the amount of unjust enrichment to which each user is entitled.

115.   Google's UMA data shows that there is significant variation in the length of Incognito sessions. Specifically, as noted above, the UMA data shows that ▮▮▮▮ of Incognito sessions on Windows are associated with ten or fewer page navigations, while ▮▮▮▮ of Incognito sessions involve over 100 page navigations.[168] Moreover, as I show above, the UMA data also show significant variation in the length of private browsing sessions, with ▮▮▮▮ of Incognito sessions on Windows lasting less than 15 minutes each, approximately ▮▮▮▮ lasting between 15 minutes and three hours, and the remaining ▮▮▮▮ lasting more than three hours.[169] The lengths of Incognito sessions on Android have a similar distribution.[170]

116.   Three other factors that affect Google's ability to earn revenue from different class members include (1) the extent to which each class member utilized user controls that prevented Google from earning revenue, (2) the general characteristics of each user, and (3) the extent to which each user interacts with ads. If a class member disabled personalized ads, then I understand Google would not earn any revenue from ads targeted using the At-Issue Data. Mr. Lasinski claims that there is ▮▮▮▮ revenue loss due to loss of ad personalization.[171] Consequently, Google

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[168] *See* GOOG-CABR-04486714, tab "NavigationsSession - Window."

[169] *See* GOOG-CABR-04486714, tab "Lifetime duration - Windows."

[170] *See* GOOG-CABR-04486714, tab "Lifetime duration - Android." Specifically, ▮▮▮▮ last less than 15 minutes each, ▮▮▮▮ last between 15 minutes and three hours, and the remaining ▮▮▮▮ last more than three hours.

[171] Lasinski Report, ¶ 73.

would earn less revenue from a class member who blocked third-party cookies and/or turned off ad personalization than from a class member who did not, all else equal.

117.   Similarly, I understand that advertisers are not willing to pay the same amount of money for the same ad to be shown to every user. Specifically, the characteristics of the specific user to whom an ad may be targeted affects how much an advertiser may be willing to pay. For example, an advertiser may bid more to show ads to an iOS user than an Android device user, all else equal, because they expect to derive more value from a user browsing on an iOS device.[172] Similarly, depending on the specific ad space, an advertiser may be willing to pay more or less based on the user's browsing and shopping behaviors.[173] These characteristics impact the revenue and profit that Google could earn from each class member.[174]

118.   Finally, Google would not be equally enriched from two class members who were identical in all aspects except for the extent to which they engaged with ads. Some of Google's revenue is click-based revenue.[175] If a class member does not engage with Google's ads for which Google is paid only if there is user engagement, then Google would earn less revenue from this class member than the otherwise identical class member who does engage with ads.

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119.   In conclusion, it would be inappropriate to allocate the same amount of unjust enrichment to each class member as this would allocate the same amount to a class member who

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[172] Declaration of George Levitte Regarding Google Ad Manager Profits in Opposition to Plaintiffs' Motion for Class Certification, in Patrick Calhoun, et al., v. Google LLC, Case No. 20-CV-05146-LHK, December 17, 2021 ("Levitte Decl."), ¶ 20.

[173] Levitte Decl., ¶ 20.

[174] Levitte Decl., ¶ 13.

[175] Alphabet, Inc., SEC Form 10-K for the period ended December 31, 2017, pp. 28-31; GOOG-CABR-05321478-498 at 484, GOOG-CABR-0530733-740, at 734.

browsed once per month and saw no ads as to a class member who browsed every day and saw personalized ads daily. Nor would it be appropriate to determine the allocation using browser instances, which would cause variation in the unjust enrichment allocation that is unrelated to either the harm suffered by each class member or the benefit that Google allegedly obtained from each class member. From an economic perspective, any methodology for allocating unjust enrichment must consider that class members use private browsing mode to varying degrees, engage with ads and user controls differently, and otherwise are associated with characteristics that advertisers find less valuable. Ignoring all of these variabilities, Mr. Lasinski's proposed allocation methodologies result in awards that bear no relationship to either the harm class members suffered or their contributions to Google's alleged unjust enrichment. In other words, his proposed methodologies result in allocations that are essentially arbitrary.

VII.   OPINION 3: MR. LASINSKI'S PROPOSED METHODS FOR CALCULATING AND ALLOCATING CLASS-WIDE RESTITUTION DAMAGES ARE UNRELIABLE AND OVERSTATE DAMAGES

120.   Mr. Lasinski's proposed methodology to calculate class-wide restitution damages is unreliable, as is his methodology for allocating class-wide restitution damages to individual class members.

121.   Mr. Lasinski has failed to propose a reliable method for calculating class-wide restitution damages in part because he fails to reliably quantify the value of the At-Issue Data. The ▮▮▮▮▮▮ value per device that is the cornerstone to Mr. Lasinski's method is a grossly overstated measure of the value of the At-Issue Data. He claims this is the value of the At-Issue Data because Google paid this amount to people who participated in a Google market research study--but ignores that Google's payment includes compensation for much more than that which is at issue in this

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case. In particular, Google's payment included compensation for more comprehensive data than that which is at issue in this case, and which was linked to the identities of the panelists, as well as non-data-related demands imposed on panelists that were not imposed on class members. Mr. Lasinski also fails to consider that the amount Google was willing to pay for the data it collected in the Screenwise market research study, even if it was equivalent to the At-Issue Data, is not an indication of what Google would, or economically could, pay for the data if its purpose was to use the data, not for market research, but as an input to its commercial operations.

122.   Mr. Lasinski also fails to propose a reliable method for calculating class-wide restitution damages because he does not reliably quantify the base to which his claimed ▉ per device payment should be applied to calculate class-wide damages. He uses the number of unique browser instances with which users browsed in private browsing mode in each month during the class period as a proxy for the number of devices that class members used to browse in private browsing mode. However, his estimated number of browser instances overstates the number of devices in each period.

123.   A simple comparison confirms that Mr. Lasinski's method overstates class-wide restitution damages and is economically unreasonable. If Mr. Lasinski's method were adopted, it would result in class-wide restitution damages of over ▉▉▉▉▉ for data Google received from users that account for at most ▉▉▉▉▉ of the private browsing traffic. Mr. Lasinski's method implies that similar data Google may have received from all user traffic is worth more than all of the profit that Google generated from products and services sold in the U.S. during the class period.

124.   His proposed class-wide restitution damages of ▉▉▉▉ represent an amount that is also not commensurate with what Google, as an economically rational buyer, would be willing to pay for the data at issue given the benefit Google could obtain from that data. This is in

part due to Mr. Lasinski's failure to consider the different purpose of the Screenwise market research upon which he relies. The amount Google was willing to pay for the data it collected in this market research, even if it was equivalent to the At-Issue data, is not an indication that Google would, or economically could, pay the same amount for data it would use for a different purpose, namely as an input to its commercial operations.

125.   In addition to proposing overstated and economically unreasonable class-wide damages, Mr. Lasinski fails to propose a reliable method to allocate his overstated restitution damages to individual class members. His current method fails to account for the variability in the amount and type of At-Issue Data Google received from individual class members, and therefore the variability in damages that each class member would be entitled to from an economic perspective. Mr. Lasinski proposes to either compensate each class member the same amount of damages or compensate class members based on browser instances that are completely unrelated to usage of Incognito mode. For example, he would compensate a class member who blocked third-party cookies and browsed in private mode *once per month* from three separate devices three times more than he would compensate a user who browsed in private browsing mode *every day of the month* but did all her browsing in private browsing mode from one device.

A.   **Summary of Mr. Lasinski's method for calculating class-wide restitution damages and allocating those damages to individual class members**

126.   Mr. Lasinski claims that "the baseline payment [in 2021] to Screenwise Panel participants of ███████ for their use of a Screenwise browser extension or a Screenwise meter app on a single device represents a conservative indicator of the monthly payment necessary for

an individual to knowingly relinquish the choice to keep certain browsing private and allow

Google to track all of their online activity, regardless of browsing mode."[176]

127.   Mr. Lasinski selectively quotes text from Google's Panel Privacy Policy that makes

it appear as if the data that Google collects from panelists is the same as, or substantially similar

to, the At-Issue Data.[177] However, he does not list all of the data and activities for which Google's

█ payment compensates panelists, nor does he show that the At-Issue Data is the same as, or

substantially similar to, the data those panelists agree to provide to Google. He also does not

explain a glaring hole in his logic: If the data Google collected from panelists is the same as data

Google collected from class members, and the utility to Google from both types of data is identical,

then why would Google need to pay panelists at all for their browsing activity?

128.   Mr. Lasinski also discusses "[u]sers' willingness to pay to prevent data collection"

and "[r]esearch organizations' willingness to pay for data collection,"[178] though he rejects them as

not "the most probative indicator[s] of the value of data that Google obtained from users' private

browsing activities…"[179] With respect to users' willingness to pay to prevent data collection, Mr.

Lasinski offers the "GigaPower Campaign & Internet Preferences Program" that AT&T launched

in parts of Austin, Texas in 2013, and expanded to Kansas City, Missouri and parts of Kansas in

2015 as the only example. With this program, AT&T offered to customers of its all-fiber network

the option to pay $29 per month in addition to the $70 base price for the service to opt out of

participating in AT&T's "Internet Preferences" program that used customer's personal data to

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[176] Lasinski Report, ¶ 138.

[177] Lasinski Report, ¶¶ 144-146.

[178] Lasinski Report, ¶ 140.

[179] Lasinski Report, ¶ 165.

serve targeted advertisements.[180] He does not explain how willing AT&T customers were to pay this amount to opt out of this service. With respect to the willingness of research organizations to pay for data collection, Mr. Lasinski offers information on what Nielsen Computer and Mobile Panel, SavvyConnect, and UpVoice pay participants in market research panels. He offers only a cursory explanation of these examples, and does not include any analysis to establish that the payments from these companies to participants are applicable or relevant to establishing the value of the At-Issue Data (*e.g.*, by showing that the payments are for the same or largely similar data, rather than for information or value that is unrelated to the At-Issue Data).

129.   To obtain the total class-wide restitution damages of ▮▮▮▮▮, Mr. Lasinski multiplies the ▮ per device payment from Google to Screenwise panelists by his estimated number of browser instances through which users browsed in private browsing mode at least once in a given month.[181] Mr. Lasinski obtains the number of browser instances applicable to the class of Chrome users from Google's user metrics analytics or "UMA" data pertaining to Chrome instances through which users browsed in Incognito mode in 2021. He obtains the number of browser instances for the class of non-Chrome users by extrapolating the UMA data for Chrome using market shares of different browsers, under the assumption that the data on Chrome instances can be used to calculate the number of Safari and Edge instances that also may have been used in private browsing mode.[182]

130.   Mr. Lasinski suggests that a Claims administrator could allocate restitution damages to class members based on two methods. His first proposed method is to distribute class-

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[180] Lasinski Report, ¶ 156.

[181] Lasinski Report, ¶¶ 138–139, 183–184.

[182] Lasinski Report, ¶ 166. For a summary of how Mr. Lasinski uses UMA data to calculate restitution damages for each of the two Proposed Classes, *see* **Section IV.B**.

wide damages to class members based on the number of instances "deemed attributable to each Class member."[183] His second proposed method is to distribute class-wide restitution damages based on the number of class members.[184]

131.   To understand Mr. Lasinski's proposed method of allocating damages using browser instances, consider a hypothetical scenario of two class members, John Doe and Jane Doe. John Doe had a Chrome browser installed on a desktop computer, a Safari browser installed on a smartphone and a Chrome browser installed on a tablet. John Doe blocked third-party cookies and browsed in private browsing mode *only once* on each device in each month of the class period, and the remainder of his browsing occurred in non-private browsing mode. Class member Jane Doe only used Safari in private browsing mode on her smartphone for all her daily browsing activity during the entire class period and did not block third-party cookies. According to Mr. Lasinski's method, the value of the data Google received from John Doe equals ███████, or nearly ███ during the class period, while the value of Jane Doe's data equals ████████, or about ████ during the class period. Despite all of Jane Doe's traffic being in a private browsing mode and very little of John Doe's, John Doe would be compensated ████████ as much as Jane Doe.

B.   Mr. Lasinski's use of Google's payment to panelists as the value for the At-Issue data is economically unreasonable

132.   In **Section VII.C** below, I describe why Mr. Lasinski's proposed ████████ payment per device for the value of the At-Issue Data Google received is overstated and unreliable. In **Section VII.D**, I explain why Mr. Lasinski's estimate of the number of browser instances to

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[183] Lasinski Report, ¶ 197.

[184] Lasinski Report, ¶ 197.

which the ▉ monthly payment should be applied is unreliable and overstated. Both of those issues combined cause Mr. Lasinski's estimate of class-wide restitution damages to be significantly overstated and unreliable class-wide restitution damages. In this section (**Section VII.B**), I illustrate why Mr. Lasinski's class-wide restitution damages are economically unreasonable.

133.   From an economic perspective, the market value of a product is the price that a buyer is willing to pay to obtain the product and a seller is willing to receive to part with the product, where neither party is under the obligation to consummate the transaction and both parties have the option to walk away.[185] In other words, the economic value of an item, including personal data, depends on both supply and demand factors.

134.   According to basic principles of microeconomics, the demand for an input is derived from the buyer firm's ability to make a profit on its use in production. The At-Issue Data is an input that firms such as Google may use to supply their own products, such as targeted online ads. In this context, the rational profit-maximizing firm would be willing to pay a price for the input up the point where the revenue the firm can earn from the input is equal to or greater than the sum of the cost of the input and other costs that the firm must incur to earn revenue using the input.[186] As a rational buyer of the At-Issue Data, Google would not be willing to pay more than this amount for the At-Issue Data because if it paid more, then it would lose money as its costs would be higher than its revenue.

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[185] "Fair market value is defined as the price at which an asset will change hands between a willing buyer and a willing seller, neither party being under compulsion to buy or sell, and both having reasonable knowledge of relevant facts." A. Abbott, "Measures of Discount for Lack of Marketability and Liquidity," The Valuation Handbook, Hoboken, Wiley, 2010, pp. 474–507 at p. 474.

[186] This increase in revenue is equal to the increase in output caused by the additional input multiplied by the price of the output. This is known as the "value of the marginal product" of the input. *See* Mankw, G.N. "Principles of Economics," 6th Ed, 2011, pp. 379–380. *See also,* Pindyck and Rubinfeld, "Microeconomics," 8th Ed., 2013, pp. 530–533.

135.   Yet, Mr. Lasinski's class-wide restitution damages of ▆▆▆▆▆ are more than ▆▆▆▆▆ greater than the *maximum* amount of *revenue* (not profits) that he claims Google received as a result of the alleged wrongful acts and ▆▆▆▆ higher than the *minimum* amount of alleged unjust revenue.[187] In other words, Mr. Lasinski proposes that the At-Issue Data is worth more than what Google could receive as revenue from use of the data. When we consider unjust profit, which is the correct measure of unjust enrichment, rather than unjust revenue, his class-wide restitution damages are even more unreasonable: his class-wide restitution damages are between 7▆▆▆▆▆▆▆▆ larger, depending on the scenario, than Google's alleged unjust *profit* from the unjust revenue, calculated using Mr. Lasinski's method corrected for quantifiable errors in his method.[188] This means that if the data was worth as much as Mr. Lasinski claims that it is, and Google paid this amount, then Google would incur losses of between ▆▆▆▆▆▆▆ ▆▆▆▆▆, depending on the scenario.[189] As a result, Mr. Lasinski's measure of the value of the At-Issue Data is unreasonable.

136.   Another simple math exercise also shows that Mr. Lasinski's class-wide restitution damages are implausible. If the value of the At-Issue Data is ▆▆▆▆▆ as Mr. Lasinski claims, and the At-Issue Data was received from *at most* ▆▆▆▆▆ of browsing traffic as Mr. Lasinski assumes, then by Mr. Lasinski's logic, similar data collected from *all* traffic should be worth over

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[187] As I show in the remainder of this section, Mr. Lasinski's maximum amount of unjust enrichment of ▆▆▆ ▆▆▆ is a grossly overstated measure of the additional revenue that Google may have obtained from the At-Issue Data. Therefore, Mr. Lasinski's ▆▆▆▆▆ in restitution damages is likely several times larger than Google's incremental revenue. Still, I conservatively adopt Mr. Lasinski's ▆▆▆▆▆ for this comparison for the sake of argument. Similarly, the comparison with Mr. Lasinski's minimum amount of unjust enrichment of ▆▆▆▆ is still overstated for the reasons explained in the remainder of this section.

[188] ▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆.

[189] ▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆▆.

███████.[190] This is entirely unreasonable given that Alphabet's operating profits from all products and services sold in the U.S. was approximately ████████ over the *entire* class period,[191] and most of the products and services it offers do not involve revenue from the use of the data at issue in the case.

C.   Mr. Lasinski's proposed method for calculating class-wide restitution damages is unreliable and grossly overstates restitution damages

137.   As a starting point, Mr. Lasinski argues that restitution damages "can be determined as a function of the payments necessary to incentivize an individual to knowingly relinquish the choice to keep certain browsing private and allow an organization to track all online activity."[192] This assertion is incorrect and overstates any measure of restitution damages. Restitution damages in this case, if any, cannot be calculated as the payment necessary to incentivize an individual to "allow an organization to track all online activity" because not "all online activity" of the class members is at issue in this case. I understand that the only online activity at issue is class members' At-Issue Data collected while using private browsing mode and visiting certain sites that use certain Google services.

138.   In the remainder of this section, I show that Mr. Lasinski's methodology to calculate restitution damages on a class-wide basis is unreliable as a tool to determine the value of the At-Issue Data and grossly overstates restitution damages.

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[190] Calculated as Mr. Lasinski's class-wide restitution damages of ███ divided by the percentage of traffic in Incognito mode ██████ according to Mr. Lasinski. This is an understatement of the value of the data implied by his model because it does not account for the fact that data Google received from private browsing is less valuable than the data it received from non-private browsing, which Mr. Lasinski acknowledges. (*See, e.g.,* Lasinski Report, ¶¶ 74–75.)

[191] *See* **Exhibit 2.A**, which shows Google's revenue and profits during the class period.

[192] Lasinski Report, ¶ 137.

1. *Mr. Lasinski has not proposed a reliable method for calculating the value of the At-Issue Data*

  a. *Mr. Lasinski's proposed value of ▮ per device per month for the Class members' At-Issue Data is grossly overstated*

    (i) *The ▮ per device per month is overstated because it corresponds to the value of much more comprehensive data than that which is at issue in this case and because that comprehensive panel data is linked to the identity of panelists*

139. The ▮ per device per month Mr. Lasinski proposes as the value of the At-Issue Data is vastly overstated. That is because the data Screenwise panelists agree to send to Google is a much more comprehensive and broad set of data. That data reveals more about the panelists' preferences and habits compared to the At-Issue Data Google may have received from class members. As explained above, this is in part due to Mr. Lasinski's failure to consider that Screenwise has a different purpose than Google's collection of the At-Issue data. While Google receives the At-Issue data as an input to its commercial operations, Screenwise is a panel designed to assist Google in improving its products and developing new products, and as such, it is designed to provide a representative sample of all online activity of all internet users. This requires Google (or Ipsos) to offer sufficiently large economic incentives to panelists to ensure the participation of a representative sample of users from across the various sub-groups within the population.[193] Differently stated, a lower amount of compensation may have incentivized some, but not all, users to participate, which may have introduced a sampling bias and resulted in a sample of panelists that was not representative of the whole population.

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[193] I understand that Google needed a representative sample of internet users for purposes of its study and paid all panelists the same amount for this purpose.

140.   The claimed ▉ per device per month value of the At-Issue Data is vastly overstated

for at least five reasons.

141.   *First*, panelists provide demographic information to participate in the panel and

Google associates this information with the data it collects from panelists. The information

includes "full name, home address, work address, household location, phone numbers, email

address(es), unique Panelist ID, and other identifiable information." The information also includes

"information about [them] and other members of [their] household, including names, date of birth,

age, gender, languages spoken, education, training, marital status, profession, personal income,

household income, tax situation, the number of children [they] have, and the total number of adults

and children in [their] household."[194] These demographic data come from surveys that panelists

are asked to complete prior to being accepted to participate in the panel, and can be linked to the

browsing data collected through the Screenwise meters.[195] I am informed that the At-Issue Data

does not contain data such as name or e-mail address, and that Google does not associate the At-

Issue Data with the identity of private browsing mode users.

142.   *Second*, the browser meter that panelists agreed to install enables Google to collect

the browsing data of panelists irrespective of which browser the panelists are using, the panelists'

sign-in status, whether those panelists browse only in private browsing mode, switch between

private and non-private browsing modes, or browse only in non-private mode.[196] In other words,

Google would receive an individual's complete browsing activity on the device (as opposed to

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[194] Ipsos Screenwise Panel Privacy Policy, available at https://perma.cc/74YZ-TAMG and
https://screenwisepanel.com/ipsos-Sow-privacy-policy.

[195] Ipsos Screenwise Panel Privacy Policy, available at https://perma.cc/74YZ-TAMG and
https://screenwisepanel.com/ipsos-Sow-privacy-policy.

[196] Google Panel Privacy Policy, available at https://perma.cc/UEG5-239H and https://screenwisepanel.com/google-
panel-privacy-policy.

browsing activity only while in private browsing mode). This data collection allows Google to understand and draw inferences from *all* browsing activity on the user's device and link this information to other information and data Google collected from the panelists. In contrast, as Mr. Lasinski himself acknowledges, the private browsing that is at issue in this case is associated with a short-term cookie that is deleted every time a user closes the private browsing session, and that is not linked with the user's browsing activity in non-private mode on the same device.[197] Mr. Lasinski has acknowledged that the data collected during private browsing mode is less valuable in general.[198]

143.   *Third*, Google linked the comprehensive panel data to the identity of panelists in instances when panelists connected multiple devices, which in turn enabled Google to make inferences about panelists' preferences from more complete browsing activity.[199] Google offered Screenwise panelists incentives to entice them to connect multiple devices. For example, the Screenwise payment structure involved: (a) ▊ payment to panelists for "having all Wi-Fi devices connected to the Screenwise Router;" (b) additional ▊ per device for installing a browser meter on a computer, connecting a smartphone, and connecting a tablet; and (c) offered a ▊ bonus if the panelists "us[ed] 3 of the 4 devices listed above" (namely, the router, browser extension, mobile phone, and tablet).[200] Thus, when panelists connected all of their devices, Google could see the

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[197] Lasinski Report, ¶ 72.

[198] Lasinski Report, ¶ 74.

[199] GOOG-CABR-X-00000467. *See also,* GOOG-CABR-X-00000418–419 at 419.

[200] GOOG-CABR-X-00000421-465 at 423. *See also*, GOOG-CABR-X-0000467.

browsing activity of panelists across *all* linked devices and make inferences that could be drawn

from the users' *complete* set of browsing activity.[201]

144.   Mr. Lasinski calculates class-wide restitution damages by assuming class members

who accessed private browsing mode from multiple devices should receive a ▮ payment for each

device, just as the Screenwise panel participants did, even though I understand that Google does

not link private browsing sessions across multiple devices owned by the same class member. From

an economic perspective, it would be inappropriate to assume that the value of data that Google

may receive from different devices belonging to the same class member, but which I understand

Google does not link, would be equal to the value of data that Google receives from panelists who

linked multiple devices to Google's meters and which data enables Google to obtain a

comprehensive view into the user's preferences from browsing across *multiple devices*.

145.   *Fourth*, for Screenwise panelists, Google not only is able to collect a user's

browsing data across browsing sessions in different modes and on different devices, but Google

can also link that data to data from "Digital Media, TV, Game Consoles, and other Shared Devices"

such as home assistants that users may have used and allowed Google to track. This data includes

information about the panelists' use of, and preferences gleaned from, digital media and

entertainment such as TV programming, the music a participant listens to, and digital games they

play.[202] It also includes information about other devices such as wearable devices and automotive

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[201] Mr. Lasinski himself notes that Google benefits from a more detailed picture of each user's web activity. *See* Lasinski Report, ¶ 24.

[202] Google Panel Privacy Policy, available at https://perma.cc/UEG5-239H and https://screenwisepanel.com/google-panel-privacy-policy.

items connected to the Internet.[203] Information from these sources is not part of the data at issue in this case.

146.   *Fifth*, Screenwise allows Google to observe the behavior, habits and preferences of participants even when they are not browsing.[204] The following is a list of information that Screenwise collects from panelists' devices when panelists were not browsing the internet:

- Location Information based on the GPS data from a smartphone or tablet, which may also provide information about nearby Wi-Fi access points and cell towers.

- Information from motion and position sensors;

- Information about system status (*e.g.,* information about system crashes and system activity), such as when the device was turned on and off or what applications are running on the device);

- Data about the panelists' use of the device such as whether the device is on airplane mode, how frequently a device is in use, the device's battery status and charger use, the amount of free and used local storage space on the device;

- Information on the panelists' network usage and connectivity, such as network identifiers that can be used to indicate whether the participant is at home or not;

- Information about what other devices are connected to the same Wi-Fi network that the device with the meter is using, such as TVs, game consoles, or computers; and

- Information about connected Bluetooth devices, which may include things like headphones, smartwatches, and other wearable devices.[205]

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[203] Google Panel Privacy Policy, available at https://perma.cc/UEG5-239H and https://screenwisepanel.com/google-panel-privacy-policy. *See also* GOOG-CABR-X-00000466.

[204] Ipsos Screenwise Panel Cookie Policy, available at https://perma.cc/L4MN-35RF and https://screenwisepanel.com/cookie-policy, Ipsos Screenwise Panel Privacy Policy, available at https://perma.cc/74YZ-TAMG and https://screenwisepanel.com/ipsos-Sow-privacy-policy.

[205] Google Panel Privacy Policy, available at https://perma.cc/UEG5-239H and https://screenwisepanel.com/google-panel-privacy-policy.

147.   The fact that Google's payment of ▮ per device per month to Screenwise panelists allowed it to connect browsing data to non-browsing information indicates that the ▮ payment is greater than the value of the limited set of At-Issue Data Google received from the class members.

148.   *Finally*, Google's documents indicate that Screenwise panelists may have needed to satisfy certain requirements for *minimum* amounts of online activity.[206] This is relevant to this case because the classes include users who browsed in private mode very rarely. For example, a study from the internet privacy company DuckDuckGo shows that approximately 10 percent of private browsing mode users in the U.S. report using private browsing once a month and over 30 percent report using it on rare occasions.[207] This indicates that the UMA data that Mr. Lasinski uses to calculate the base to which he applies his ▮ per device per month payment likely includes a material fraction of users who are rarely active on Incognito or active only on one day in an entire month.[208] Therefore, the ▮ payment to Screenwise panelists is subject to an activity requirement that many class members would likely not satisfy.

149.   The idea that the Screenwise data is not comparable to the At-Issue Data because it is richer and more complete than the At-Issue Data is straightforward and intuitive; Google would have no incentive to pay Screenwise participants for data it is already obtaining when users go to third-party websites that use Google services. In fact, the Screenwise Privacy Policy specifies that

[206] GOOG-CABR-04766037–072 at 056. *See also,* GOOG-CABR-X-00000512–752 at 521, 599–603. *See also*, Deposition of Troy Walker, March 24, 2022, pp. 26–27, 32–33.

[207] *See,* Duck Duck Go, "A Study on Private Browsing: Consumer Usage, Knowledge, and Thoughts," January 2017, available at https://perma.cc/3Q3N-RZFE, p.7.

[208] In fact, I understand from documents Google has produced that one of the reasons why Google does not typically use the 28-day average UMA data requested by Plaintiffs to count the total number of Incognito instances (as Mr. Lasinski does) is because Google believes that these data include a large number of Chrome instances that only browsed in Incognito on a single occasion. *See* GOOG-CABR-00790093–095 at 093 ("[A] large number of UMA client IDs observed for Clank (at least) over the last year are only seen on a single day. I am seeing that ▮ of client IDs reported in the last year are one-day-only."); GOOG-CABR-03709454 (▮ of UMA client_ids seen in a year are only seen on a single day").

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Google may combine the panel data "with other data collected by Google when you're using Google products and services as a Google user."[209]

150.   Publicly available media articles also report that the Screenwise data is broader than other data Google may have received from users simply browsing the internet, especially while in private browsing mode. For example, The Verge reported that "Google Screenwise pays opt-in users for *expanded* web tracking"[210] and ArsTechnica reported that "[w]ith its own services fully optimized for data collection, the router-based Screenwise program looks like it will let Google get its hands on *everything else* that is done on the Internet, too."[211] Similarly, Tom's Guide reported that "Google will pay you for tracking your every move" and explains that the Screenwise data collection includes all browsing activity regardless of whether it is on private browsing modes or not, and can include information about multiple devices,[212] while Endgadget reported that Screenwise "will pay you to track your every move online."[213]

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[209] Google Panel Privacy Policy, available at https://perma.cc/UEG5-239H and https://screenwisepanel.com/google-panel-privacy-policy.

[210] Google Screenwise pays opt-in users for expanded web tracking, available at https://perma.cc/N86P-8TY9 (emphasis added).

[211] Google paying users to track 100% of their Web usage via little black box, available at https://perma.cc/A7B6-LBJW (emphasis added).

[212] "Google Will Pay You For Tracking Your Every Move," available at https://perma.cc/XMX4-XYHU.

[213] "Google Screenwise panel will pay you to track your every move online," available at https://perma.cc/D27D-X5CC.

(ii)　　*The ▉ payment is overstated because it includes compensation to individuals for their time in addition to the personally identifiable, demographic and device information, and online browsing data and other system, network and device data that Google receives*

151.　　In addition to compensating panelists for more comprehensive data than that which is at issue in this case, the payment that Screenwise panelists receive also compensates panelists for time spent performing certain required actions.

152.　　Internal Google documents indicate that "participation" in the panel includes significantly more than consent to Google's passive collection of "browsing history information."[214] For example, panelists can receive periodic notifications on their devices related to their panel participation and may be asked "from time to time" to log into their Google accounts to confirm their information is current and accurate.[215]

153.　　Screenwise panelists are also required to "open the Screenwise Meter app every few days to check in and see if there are any tasks they need to complete."[216] Users' time is of value, and a portion of Google's payment to the panelists must be to compensate users for the time required to comply with the survey requirements and other tasks. In contrast to panelists, class members did not have to commit time to complete required tasks.

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[214] *See* GOOG-CABR-X-00000512–752.

[215] Google Panel Terms & Conditions, available at https://perma.cc/JPK3-T65S and https://screenwisepanel.com/google-panel-terms-condition.

[216] GOOG-CABR-X-00000512–752 at 609.

> (iii)   *The ▮ payment includes compensation for restrictions by which panelists must abide, in addition to the value of their time, demographic information, and online browsing data and other system, network and device data that Google receives*

154.   Participation in Google's panels such as Screenwise imposes restrictions on what panelists are allowed to do while they are browsing the internet. Specifically, panelists are not allowed to use ad blockers, applications that prevent them from being tracked online or from being exposed to online ads, or otherwise opt out of online ads.[217] For example, the Screenwise Privacy Policy states:

> During your participation in the Panel, you agree not to: (i) opt out of interest-based advertising, remarketing, or other forms of online behavioral advertising, from any browser, application, or device that is connected to a Meter; (ii) employ "do not track" or related features on any browser, application, or device that is connected to a Meter; (iii) employ ad blocking or ad injecting features on any browser, application, or device that is connected to a Meter; or (iv) turn off location reporting services, location history services, or other location-related features on any device that is connected to a Meter. If we detect such activity, we may prompt you to change your settings. Failure to change your settings upon request may be grounds for termination….[218]

155.   In contrast to panelists, class members were at liberty to install any type of ad-blocking software, to opt out of personalized advertising, or to select any of the other user options that were prohibited for panelists, such as various browser extensions,[219] disabling Javascript in

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[217] Google Panel Terms & Conditions, available at https://perma.cc/JPK3-T65S and https://screenwisepanel.com/google-panel-terms-condition.

[218] Google Panel Terms & Conditions, available at https://perma.cc/JPK3-T65S and https://screenwisepanel.com/google-panel-terms-condition.

[219] Zervas Report, ¶¶ 102, 114, 136-141.

the browser's built-in settings,[220] VPNs,[221] and Google Ad settings.[222] As such, it is inappropriate

to use Google's payment to Screenwise panelists as representative of the value of the At-Issue

data.

> *(iv)   Summary of the reasons why Google's ▉ per device per month payment to Screenwise panelists is an inappropriate and overstated measure of the value of the At-Issue Data*

156.   In summary, the payments that a Google panelist receives represent compensation

for all information the panelist was expected to share, the comprehensive data Google was allowed

to collect and link to that panelist's identity, all of the panelist's activities Google was allowed to

track, all the time the panelist was expected to dedicate to the panel, and all restrictions by which

the panelist was required to abide. **Figure 4** below summarizes the information and data Google

could obtain from panelists (described in more detail above) and compares this to the At-Issue

Data Google could receive from members of the class.

157.   **Figure 4** below illustrates why the value of the At-Issue Data cannot and should

not be equal to the ▉ payment that Google paid to Screenwise panelists. This table illustrates that

Mr. Lasinski's proposed method for calculating class-wide restitution damages is flawed and

unreliable, and results in grossly overstated class-wide restitution damages.

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[220] Zervas Report, ¶¶ 103, 128-135.

[221] Zervas Report, ¶¶ 105, 142-147.

[222] Zervas Report, ¶ 115. For example, users can visit Google Ad Setting, Ad personalization settings, available at https://perma.cc/PZ2N-GGQN to disable personalized ads.

Figure 4

**Summary of Data Collected, Actions and Restrictions that Apply to Screenwise Panelists as Opposed to Class Members
Opinion 3 - Section VII.C.1**

Screenwise Panelists	Putative Class Members
Type of Data Collected	
Internet Browsing Information: - Information linked to their identity while browsing in any mode. Demographic information: - Full name - Home and work address - Phone numbers and email address(es) - Date of birth - Gender - Personal and household income - Languages spoken - Education and profession - Marital status - Income - Total number of adults and children in the household Device and internet browsing data: - Location information from GPS data - Information from motion and position sensors - Information about system status - Information about the panelists' use of the device - Information about network usage and connectivity - Information about devices that are connected to the same Wi-Fi -Information about connected Bluetooth devices -Information about telephone, emails, SMS, instant messaging, and other communications services	Internet Browsing Information: - Information not linked to their identity while browsing in private browsing mode only.
Required Actions	
- Install a web browser - Accept Screenwise Terms and Conditions, and Privacy Policy - Install browser extension meter -Log into account and confirm information - Open the Screenwise Meter all every few days to check for tasks - Complete required tasks	- Install a web browser
Forbidden Actions	
- Cannot use ad blocking or ad injecting features on any browser, application, or device that is connected to a Meter - Cannot turn off location reporting services, location history services, or other location-related features on any device that is connected to a Meter - Cannot use "do not track" or related features on any browser, application, or device that is connected to a Meter - Cannot opt out of interest-based advertising, remarketing, or other forms of online behavioral advertising, from any browser, application, or device that is connected to a Meter	- None

Sources: Third Amended Complaint, ¶ 163; Google Panel Privacy Policy.

158.   Based on this comparison, we can conclude that it would have been illogical for Google to have paid to obtain the Screenwise data if it could accomplish these goals with the At-Issue Data that it already receives. Internal Google documents indicate that Google uses the detailed Screenwise data to improve its existing products and develop new ones, as well as to understand the targeting precision of ads campaigns and how devices are used.[223] Thus, the Screenwise panel was a targeted panel designed for a specific purpose and with a limited number of participants. Google discussed in internal documents that payments to Screenwise panelists are not scalable to hundreds of millions of users. Indeed, an internal Google document states it is "likely not feasible" to bear the cost of a panel larger than ▮▮▮▮ users,[224] let alone to bear that cost for the ▮▮▮▮▮ class members Mr. Lasinski claims exist.[225] Mr. Lasinski fails to consider that the amount Google was willing to pay for the data it collected in the Screenwise market research study, even if it was equivalent to the At-Issue Data, is not an indication of what Google would, or economically could, pay for the data if its purpose was to use the data, not for market research, but as an input to its commercial operations.

b.   *Mr. Lasinski's proposed value of ▮ per device per month for the class members' At-Issue Data is also overstated because it does not offset the value that class members received from seeing the ads personalized using the At-Issue Data*

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[223] Ipsos Screenwise Panel Privacy Policy, available at https://perma.cc/74YZ-TAMG and https://screenwisepanel.com/ipsos-Sow-privacy-policy. Google also specifically states it does not use the Screenwise data to serve ads, which further shows the different purposes of these two sources of data. Ipsos Screenwise Panel Privacy Policy, available at https://perma.cc/74YZ-TAMG and https://screenwisepanel.com/ipsos-Sow-privacy-policy "We will NEVER use your information for any purpose other than research or as described in this policy. Other than in relation to this Panel (like participating in further surveys), we will NOT try to sell you anything, nor use your information for marketing purposes. Nor will we ever pass your information to third parties for marketing or advertising purposes."

[224] GOOG-CABR-04704939–989 at 945.

[225] Lasinski Report, Figure 75.

159.   As I explain in **Section V.C** above, class members received targeted advertising and other online personalization services as a result of Google's receipt of the At-Issue Data. In plaintiffs' but-for world, class members would not have received these online personalized services. Mr. Lasinski fails to account for these benefits in his methodology to calculate class--wide damages. As a result, his proposed value of ▮ per device per month for the At-Issue Data, even if it was a reliable measure of the value of the At-Issue Data, which it is not, overstates damages because it is not offset or reduced by any value that class members may have received from online personalization.

160.   As shown above, a 2016 Adlucent survey concluded that a majority of customers are willing to share data to get more personalized advertising that is tailored to their interest and shopping habits.[226] The survey identified "a way to discover new products" and "making online searching and shopping faster and easier" as benefits of online personalization.[227] These benefits from online personalization are likely still relevant for users who browse in private browsing modes because shopping and travel purchases are some of the most common reasons people use private browsing.[228]

161.   In my opinion, an analysis of the damages suffered by class members, if any, must consider the net effect of the costs incurred by class members as a result of the alleged misconduct, such as the collection of their At-Issue Data, and any benefits that may accrue from the alleged misconduct, such as the benefits derived from online personalization provided to class members

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[226] Adlucent, "71% of Consumers Prefer Personalized Ads." Available at https://perma.cc/3J8H-D3VK..

[227] Adlucent, "71% of Consumers Prefer Personalized Ads." Available at https://perma.cc/3J8H-D3VK.. In **Section V.C** above, I cite to other publicly available surveys and articles that also support this conclusion.

[228] *See,* Duck Duck Go, "A Study on Private Browsing: Consumer Usage, Knowledge, and Thoughts," January 2017, available at https://perma.cc/3Q3N-RZFE. *See also,* "Understanding how people use private browsing," Elie blog, available at https://perma.cc/8E7L-FLZ8.

on the basis of the At-Issue Data. Because Mr. Lasinski does not account for these benefits, his

measure of restitution damages is further overstated.

> c.   *I am not aware of any information that could be used to reliably calculate on a class-wide basis the value of the At-Issue Data Google received from each class member*

162.   Mr. Lasinski has not provided a reliable measure of the value of the At-Issue Data.

In **Section VII.B.1** above, I show that Google's ▮ payment per device per month to Screenwise

panelists for installing browser meters includes compensation for various data and requirements

that are beyond the scope of the At-Issue Data. Mr. Lasinski has failed to quantify and exclude the

portion of the ▮ payment that pertains to either the data Google collected from Screenwise

panelists but not class members, or to Google's requirements of Screenwise panelists that are not

applicable to class members.

163.   Conceptually, it might appear plausible that, under certain assumptions, one could

derive an indication of the value of the At-Issue Data by starting with Google's ▮ payment per

device per month to Screenwise panelists and reducing that amount by the portion of the payment

attributable to data and requirements unrelated to the At-Issue Data.[229] As I discuss in **Section**

VII.C.1.a above, among the required deductions would be the portion of the ▮ payment that:

- Pertains to the value of the Screenwise data that Google receives from panelists, but which is not at issue in this case;

- Pertains to the value of panelists' time spent on required activities; and

- Is compensation for imposing restrictions on panelists from exercising user controls that are not restrictions imposed on class members.

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[229] Among the necessary assumptions is that the ▮ per device per month payment would allow Google to profitably use the data as an input in its normal business operations. As discussed above, this assumption is contrary to the evidenced in this case. Further, as discussed above, any indication of value from this approach would need to be reduced by the value of online personalization that Proposed Class members would forgo if the At-Issue Data were not collected.

164.   However, the value contribution of the aforementioned factors to the ▉ payment per device per month cannot be quantified reliably on a class-wide basis, and, in any event, would likely vary among users. For example, it is unclear how many tasks each panelist receives, how much time it takes participants to check the browser meter app for tasks, how long participants may spend responding to surveys or completing other requirements of the Screenwise program, or how participants value their time. Moreover, I understand that there is no information that would enable one to isolate the incremental value contribution of the At-Issue Data to the ▉ payment. Finally, it is unclear what portion of the payment is to incentivize users to forego any options to block ads or personalization.

165.   Although I am not aware of a reliable way to quantify the value of the At-Issue Data on a class-wide basis, there is nonetheless compelling evidence that the actual value of the At-Issue Data would be only a fraction of the ▉ amount. For example, I explain above that the ▉ payment under the Screenwise program is for *all* browsing activity on a device, and not just browsing on Chrome or in Incognito mode. Mr. Lasinski has estimated that, in 2021, ▉▉▉▉ of Chrome traffic is in Incognito mode, and that this traffic is originated from ▉▉▉▉ of the monthly Chrome instances.[230] Assuming, for the moment, that these percentages are correct (and for reasons I explain in **Section VI.C.2** these percentages overestimate Incognito traffic), then only ▉▉▉▉ of the Chrome traffic associated with the class members is in Incognito mode.[231] If I use this estimate of Chrome traffic in Incognito mode as a conservative upper bound, then on average ▉▉▉▉ of the ▉ payment from Google is not applicable to the At-Issue Data solely

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[230] Lasinski Report, ¶ 168, Figure 64.

[231] I calculate this as ▉▉▉▉▉▉▉▉

on the grounds that it pertains to data Google would receive from class members' browsing activity in regular mode that is not at issue in this case. This is one of many factors the value of which should be deducted from the ▮ payment.

166.   Moreover, Mr. Lasinski has acknowledged that private browsing activity associated with a new cookie assigned to an Incognito session every time a new session is launched is less valuable than browsing data associated with non-private browsing sessions.[232] Mr. Lasinski calls the browsing data associated with the deletable cookie in a new Incognito session a "short-term profile" and the data associated with the cookies in regular mode "long-term profiles." I have no opinion on whether these are indeed "profiles," but for purposes of this rebuttal I will use Mr. Lasinski's nomenclature. For his opinions, Mr. Lasinski assumes that short-term profiles are ▮ ▮ less valuable than long-term profiles. This ▮ discount would be incremental to the discount needed to adjust for the fact that in this case only a portion class members' browsing activity is at issue. Further, this ▮ discount is very conservative because it pertains only to differences in the length of profiles, and it does not account for the higher quality of profiles gathered from the detailed information Google collects from panelists. We would expect data from Screenwise to be much more valuable than not only short-term profiles like those Google could create using the At-Issue Data, but also than the long-term profiles Google could create using data from longer term cookies.

167.   Applied together, these two discounts *alone* would decrease the ▮ value by approximately ▮ to ▮ [233] Even ▮ per user per month would overcompensate users because these are only two among many adjustments that need to be implemented to measure how

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[232] Lasinski Report, ¶ 74.

[233] ▮

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much of Google's █ payment is related to the At-Issue Data. I am unaware of a reliable way to calculate, without speculation, the portion of the █ payment attributed to the additional data Google collects from panelists, additional time panelists may need to spend to fulfill their duties, and additional restrictions panelists must abide by. Certainly Mr. Lasinski has not acknowledged the need for such adjustments, let alone proposed a method to quantify them. Therefore, Mr. Lasinski has not proposed a reliable class-wide method for calculating the value of the At-Issue Data.

> 2.   *Mr. Lasinski's proposed method for calculating class-wide restitution damages is further flawed because it overstates the number of devices to which his proposed █ value should be applied*

168.   In his report, Mr. Lasinski states that he "undertook an independent analysis of the base to which the previously discussed █ monthly rate can be applied" for purposes of calculating class-wide restitution damages.[234] He explains that, because Google represented it cannot "capture data on a per *user* basis," he "sought to determine the number of unique *devices* (*i.e.*, computers and mobile devices) with which users have browsed in Incognito and Other Private Browsing Modes in the U.S. during each month of the Class Period."[235] However, Mr. Lasinski is not actually estimating the number of *devices* on which users browsed in Incognito or other private browsing modes. Instead, he estimates the number of *browser instances* that browsed in Incognito or other private browsing modes, which are not the same as the number of devices. In addition, Mr. Lasinski overstates the number of browser instances. As shown below, these shortcomings indicate that the number of devices used by Mr. Lasinski may be materially overstated.

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[234] Lasinski Report, ¶ 166.

[235] Lasinski Report, ¶ 166 (emphasis in the original).

169.   *First*, Mr. Lasinski's estimate of the number of browser instances used to browse in private browsing mode prior to 2021 is overstated because it is based on data for 2021 even though case evidence indicates that the usage rate of Incognito mode was lower in prior years. An internal Google email shows that the percentage of instances that recorded browsing in Incognito increased by ▇▇▇▇▇▇ between November 2018 and November 2019, while the number of Incognito page loads increased by ▇▇▇▇▇▇ in the same period.[236]

170.   *Second*, Mr. Lasinski's calculation of Chrome instances measures how many different instances appear in the UMA data in a given month. However, I understand that one user may access Incognito browsing through multiple Chrome instances from the same device in a given period, as would be the case in months when they switched devices or reinstalled Chrome on their existing device.[237] For example, I understand that every time Chrome was installed on a device, the device would appear under a different new client ID in the UMA data. In other words, in a given month, every class member who used Chrome, then purchased a new device, and again browsed using Chrome on the new device is counted twice. A device will also appear twice in the UMA data in the same month if a user uninstalls Chrome on the device and then reinstalls it, as the new client ID would be assigned in this case as well. While I am unaware of data that could be used to quantify the frequency of reinstallations, approximately 2.4 percent of all smartphones, personal computers, and tablets, are replaced or upgraded each month in the U.S.[238]

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[236] GOOG-BRWN-00617282. For comparison, according to Google's Responses to Plaintiffs' Interrogatories that Mr. Lasinski relies upon, the total number of Chrome instances in the U.S. increased from ▇▇▇▇▇▇ in November 2018 to ▇▇▇▇▇▇ in November 2019. This is an increase of about ▇▇▇▇▇▇ in the same period that Incognito instances increased by ▇▇▇▇▇▇. This shows that the fraction of Chrome instances that browsed in Incognito must have increased during that period. *See* Lasinski Report, Schedules 17.3 and 17.4.

[237] Sadowski Deposition, p.41.

[238] An Office Depot survey shows that, on average, users in the U.S. upgrade their smartphones every 3 years (or 36 months), their laptops every 4.8 years (or 57.6 months), and their tablets every 4.2 years (or 50.4 months). This is

171.   In summary, this evidence indicates that the number of devices used by Mr. Lasinski may be materially overstated. Mr. Lasinski's measure of browser instances is not an adequate or reliable estimate of the number of unique devices that class members have used to browse in private modes during the class period because it ignores that, in any given month, users may replace their devices or reinstall Chrome. Moreover, Mr. Lasinski's estimate of browser instances is also overstated because it ignores that the relative use of private browsing mode increased over the class period.[239]

              3.   *Mr. Lasinski's examples of payments from market research companies for user information are not relevant because they do not measure the value of the At-Issue Data*

172.   As part of his "Analysis of the Value of Private Browsing Data Acquired by Google," Mr. Lasinski discusses examples of payments from Nielsen, SavvyConnect, and UpVoice market research companies to consumers for collection of consumer data, and payments from consumers in less than a handful of cities in the U.S. to AT&T to opt out of the collection of online data.[240]

173.   However, Mr. Lasinski has not demonstrated that these comparators provide any reliable indication of the value of the At-Issue Data. The payments from market research companies to panelists who participate in market research programs like the Screenwise panel that

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equivalent to 2.78 percent (= 1 / 36) of mobile phones per month, 1.74 percent (= 1 / 57.6) of laptops per month, and 1.98 percent (= 1 / 50.4) of tablets per month. I calculate a weighted average of these three percentages using an estimate of the fraction of internet traffic in the U.S. for each type of device in 2020, which shows 61 percent of traffic on mobile platforms, 36 percent on desktop platforms, and 3 percent on tablets. The result of this calculation is 2.78% * 61% + 1.74% * 36% + 1.98% * 3% = 2.4%. *See* "Stretching Device Life; Exploring When Americans Update Their Electronics," Office Depot, available at https://perma.cc/X3TT-Y7YY; "Mobile vs. Desktop Usage in 2020," Perficient, available at https://perma.cc/Z5ZF-839C.

[239] If fewer users used private mode earlier in the class period, then there would be fewer browser instances that were used to access private mode than Mr. Lasinski estimates.

[240] Lasinski Report, ¶¶ 155–164.

Ipsos conducted for Google suffer from many of the same lack-of-comparability issues that I describe for the Screenwise survey. Therefore, these payments cannot be used as measures of the value of the At-Issue Data.

174.   Some of the market research companies Mr. Lasinski references compensate users for (i) collecting their name, gender and other demographic data, (ii) collecting their data while they browse the internet and fill out online profiles, installing additional apps on their devices,[241] and filling out additional surveys that may reveal information beyond the scope of the At-Issue Data. For example, in addition to collecting the user's home postal address, and "behavior" data such as how frequently a participant uses their computer or watches TV, Nielsen collects "information relating to your racial or ethnic origin, political opinions, religious or other similar beliefs, philosophical beliefs, health or medical conditions, or sexual orientation."[242] UpVoice, a research panel operated by BrandTotal, collects user's date of birth, gender, relationship status, and mobile telephone, among other pieces of data, and tracks users across various social sites like Facebook, Twitter, YouTube, LinkedIn, and Amazon.[243]

175.   Similarly, Mr. Lasinski's example of AT&T GigaPower Campaign & Internet Preferences Program is also an irrelevant comparator. The program was designed to collect all of the web browsing information from all of the user's browsing to "deliver personalized ads to the

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[241] The Nielsen Computer and Mobile Panel that Mr. Lasinski cites to states: "Download our safe and secure Nielsen app or computer software on your qualified devices. … Answer our registration questions to tell us more about you, your household, and the devices you use." *See* Nielsen Computer and Mobile Panel, available at https://perma.cc/TEL6-RCK3 and
https://computermobilepanel.nielsen.com/ui/US/en/sdp/landing?SourceId=195&PID=15877&PID2=1023b2824bbb.

[242] *See* Nielsen Computed & Mobile Panel, "Nielsen U.S. Panel Privacy Notice Summary," Available at: https://perma.cc/4UE6-ZB9C. *See also*, Super Savvy, "How it Works," available at https://perma.cc/CDD5-CVWA and https://www.surveysavvy.com/how_it_works.

[243] *See* UpVoice, "How can we help you," accessed December 20, 2021, available at https://perma.cc/6CLT-NXT7.

websites you visit, e-mail to your inbox, and junk mail to your front door."[244] AT&T collected

information about user's ZIP code, online purchases, the news stories they click on and medical

information they look up across all type of devices including laptop, iPad and phone.[245]

Furthermore, AT&T tracked "users even if they cleared cookies, used ad-blocking programs, or

employed a browser's do-not-track setting."[246] The information AT&T collected was much

broader than the information Google may have received. That is because Google only receives

information from users who use Google's products, while AT&T received information from the

user's use of any company's products.[247]

176.   Mr. Lasinski has not demonstrated that the payments from customers to AT&T or

from market research companies to research participants are reliable measures of the value of the

At-Issue Data. In the end, Mr. Lasinski himself concludes that these claimed comparators are not

"the most probative indicator(s) of the value of data that Google obtained from users' private

browsing activities…"[248]

D.   Mr. Lasinski has not proposed a reliable method for allocating restitution damages to Class members in proportion to the harm they suffered

177.   As described in **Section VII.A**, Mr. Lasinski proposes that a claims administrator

could allocate restitution damages to class members either by using the number of Chrome

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[244] Jon Brodkin, "AT&T's Plan to Watch Your Web Browsing--and What You Can Do About It?," ArsTechnica, March 27, 2015, available at https://perma.cc/RCQ9-56G4.

[245] David Auerbach, "Privacy Is Becoming a Premium Service," March 31, 2015, Slate, available at https://perma.cc/Z9ME-W6X7.

[246] Gina Hall, "AT&T to halt gathering customers' web-browsing data, stop charging for an opt-out," Oct 3, 2016, The Business Journals, available at https://perma.cc/2Z6M-2PGJ.

[247] Jon Brodkin, "AT&T's Plan to Watch Your Web Browsing--and What You Can Do About It?," ArsTechnica, March 27, 2015, available at https://perma.cc/RCQ9-56G4.

[248] Lasinski Report, ¶¶ 165.

instances "deemed attributable to each Class member"[249] ("Instance-based Method") or by

dividing the class-wide restitution damages by the number of class members ("Class member-

based Method").

178.   Both of Mr. Lasinski's proposed methods are severely flawed and unreliable. Both

methods fail to account for the significant variation in the amount and type of data Google may

have received from each individual class member, and therefore fail to account for the variation in

restitution damages that each class member would be entitled to as compensation for the value of

that data. Mr. Lasinski's method that is based on browser instances also fails to account for the

fact that multiple class members may use the same instance and multiple browser instances could

be associated with the same device in the same period. Further, Mr. Lasinski's method that is based

on the number of class members is flawed because he significantly overstates the number of class

members.

       1.   *Mr. Lasinski's proposed methods for allocating the class-wide restitution damages fail to account for variation in the amount and type of At-Issue Data Google received from individual class members, and therefore fail to account for the variation in restitution damages that each class member would be entitled to from an economic perspective*

179.   Based on Mr. Lasinski's model for allocating class-wide restitution damages using

browser instances, the data from each browser instance is worth ▮ dollars per month regardless

of how often a particular class member used that browser instance to browse in private browsing

mode and the amount of data Google received from that browsing. Mr. Lasinski proposes that the

amount of restitution damages to be awarded to each class member vary with the number of devices

that each user would report to have used, such that users with more devices would be awarded

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[249] Lasinski Report, ¶¶ 196-197.

more damages.[250] The following are some examples that illustrate Mr. Lasinski's Instance-based

Method fails to make economic sense and is unreliable:

- Scenario 1: If a class member had three devices associated with three browser instances in August 2020, and the class member spent a total of one hour browsing in private-browsing mode across all three devices, then the class member would receive █ in restitution damages for that month.

- Scenario 2: If a class member had two devices associated with two browser instances in August 2020, had prevented Google from receiving data related to third-party cookies by blocking third-party cookies, and spent five hours browsing in private browsing mode, then the class member would receive █ in restitution damages.

- Scenario 3: If a class member had one device associated with one browser instance in August 2020 and spent 20 hours browsing solely in private browsing mode, then the class member would receive only █ in restitution damages.

180.   Under these scenarios, the user with the least amount of browsing activity in private

browsing mode, from whom Google would have received the least amount of At-Issue Data, other

things being equal, would receive three times greater damages than the user with the most amount

of browsing activity, from whom Google would have collected the most amount of data.

181.   Similarly, a second illustrative example shows that Mr. Lasinski's method is also

unreliable to allocate damages to class members who spent the same time browsing in private

mode over the class period but whose use of private browsing modes is spread differently over

time. Mr. Lasinski proposes to award significantly different damages to the following two

hypothetical class members who spent the same amount of time (10 hours) browsing in private

modes:

- Class member 1 spent an hour per month browsing in private mode in ten months during the class period (or ten hours total). This would amount to ten

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[250] This is because different devices are associated with different browser instances.

browser instances in private browsing mode, so Mr. Lasinski proposes to award ▮ in restitution damages to this class member.

- <u>Class member 2</u> spent ten hours browsing in private mode in a single session that took place within a single month. Mr. Lasinski proposes to award ▮ in restitution damages to this class member.

182.   This simple hypothetical example shows that Mr. Lasinski's method would award vastly different amounts of restitution damages to class members based on differences in the timing of their activity, even if the amount of At-Issue Data received by Google is the same.

183.   Mr. Lasinski's Class member-based Method for allocating class-wide damages is also flawed and fails to make economic sense. The only explanation Mr. Lasinski provides for his Class member-based Method is that "it would be possible to use the… Class member calculations for apportionment."[251] He appears to propose that each class member should be allocated the same amount of class-wide restitution damages. In other words, Mr. Lasinski appears to propose that a class member who used private browsing mode only once during the class period should be allocated the same amount of restitution damages as a class member who browsed exclusively in private mode on a daily basis. This would necessarily cause class members to be under- or over-compensated.

184.   From an economic perspective, the value of the At-Issue Data Google received from each class member cannot be established without considering the amount and type of information Google received from each class member.[252] Consequently, two users should not be entitled to the same amount of restitution damages if Google received materially more or higher

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[251] Lasinski Report, ¶ 197.

[252] Lasinski Report, ¶¶ 137, 165.

value data from one user than from the other. Similarly, two users should be entitled to the same amount of restitution damages if Google received materially the same data from each of them.

185. In general, the amount of data Google receives from different class members would vary depending on user preferences and habits like the frequency with which each user browses in private browsing mode, the amount of time each user spends browsing in private browsing mode, and any controls the user may employ to limit the data Google may receive from the user. For example, some class members may exclusively browse in private modes, while others may use private browsing mode only for specific types of websites. Two class members who both browse exclusively in private browsing mode may spend significantly different amounts of time browsing. Google would collect different amounts of data from two class members who are equal in all aspects except the use of user controls.[253]

186. That users vary in their browsing habits is evident from publicly available studies. For example, a study from the internet privacy company DuckDuckGo shows that, out of private browsing mode users in the U.S., just over 30 percent report using private browsing on a daily basis, and a similar proportion report using it only on rare occasions.[254] The same study also shows that the prevalence of use of private browsing modes declines with age: while more than half of users between the ages of 18 and 29 report having used private browsing at least once, less than a third of users above 60 years of age report having used private browsing mode.[255]

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[253] Zervas Report, ¶¶ 124-138, 142-147.

[254] *See*, Duck Duck Go, "A Study on Private Browsing: Consumer Usage, Knowledge, and Thoughts," January 2017, available at https://perma.cc/3Q3N-RZFE, p.7.

[255] *See*, Duck Duck Go, "A Study on Private Browsing: Consumer Usage, Knowledge, and Thoughts," January 2017, available at https://perma.cc/3Q3N-RZFE, p.8.

187.   Mr. Lasinski has not acknowledged that there is variation in the amount of At-Issue data Google received from different class members and the relative value of various class members' private browsing instances. Both of his proposed methods assume that there is no variation across class members along these metrics and are not economically appropriate methods for allocating damages. As a result, Mr. Lasinski has not proposed a reliable method to allocate the class-wide restitution damages to individual class members.

> 2.   *Mr. Lasinski's Instance-based Method also fails to account for the fact that multiple class members may use the same instance and multiple browser instances could be associated with the same device in the same period*

188.   Mr. Lasinski's Instance-based Method does not explain what the proper amount of restitution damages would be in cases in which instances are shared by multiple users. An estimated one third of households in the U.S. have only one desktop computer or laptop.[256] When class members share a Chrome instance, Mr. Lasinski does not explain if the proposed value of ▮ per instance per month should be split among the class members sharing the device, or if each class member should be entitled to a separate allocation of the ▮ proposed monthly value.

189.   If the ▮ amount should be split among the class members who share the browser instance, then Mr. Lasinski does not explain how this can be accomplished. For example, how would the claims administrator determine whether all or some of the class members who shared the instance used private browsing mode? Further, if multiple class members used private browsing mode, how would damages be allocated to account for the actual usage of private browsing mode in instances when one class member used private browsing mode much more than

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[256] According to a 2016 survey by Pew Research Center. *See* Olmstead, Kenneth, "A third of Americans live in a household with three or more smartphones," Pew Research Center, May 25, 2017, available at https://perma.cc/7Q73-Q48U. *See also,* Pew Research Center, "Topline questionnaire," available at https://perma.cc/NG6V-GAZV.

the other(s)? And if a class member shared a browser instance for only part of the class period, then how would total damages be calculated given that the calculation would require the class administrator to determine multiple pieces of information, including:

- The number of months within a six-year class period during which a class member browsed in private browsing mode;

- The portion of those months when the class member shared the browser instance with other users who may or may not be class members;

- How many class members shared the instance and how to remove the value associated with the browsing of users who shared the instance but are excluded from the class;

- The amount of time within the months of shared usage that the user browsed in private browsing mode relative to other users of the same instance; and

- The amount and type of data Google received from the user in each month.

190.   If each class member who shared a device should be entitled to a separate allocation of the ▮ proposed monthly value, then Mr. Lasinski's class-wide damages are not adequate to compensate all users because he does not account for this when calculating class-wide damages. This cannot be a reasonable approach because, as demonstrated above in **Section VII.B**, his class-wide restitution damages are already unreasonably high.

> 3.   *Mr. Lasinski's Class member-based Method is flawed because (a) he overstates the number of class members and (b) the method is inconsistent with the per-device payment structure that he uses to calculate damages*

191.   To estimate the number of class members, Mr. Lasinski first estimates the number of users of Chrome, Safari, and Edge, and then estimates what portion of these users browsed in private browsing mode when they had, but were not signed into, a Google account. On those assumptions, he concludes that ▮▮▮ class members used Chrome in Incognito mode, ▮

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██████ class members used Safari, and █████████ class members used Edge. Therefore, he finds

that there are a total of █████████ class members.[257]

192.   Mr. Lasinski's calculation overstates the number of class members because it relies

on two overstated and unreliable measures derived from Mr. Keegan's survey. *First*, Mr. Lasinski

relies on counts of participants in Mr. Keegan's survey that indicated they used private browsing

mode for each browser at any point in the last five years. For example, Mr. Lasinski concludes that

█████████ of U.S. Chrome users have used Incognito during the class period and █████████

of Safari users have used private browsing mode during the class period.[258] However, as discussed

in **Section VI.C.4** above, I understand from Dr. Amir that Mr. Keegan's survey results related to

this question are unreliable because they are based on the respondent's recall over a time horizon

which Dr. Amir deemed overly broad for a non-salient event such as browsing the internet.[259]

According to Dr. Amir, the affirmative answers from Mr. Keegan's survey respondents may be

guesses from the list of options available, may have been led by Mr. Keegan's questions, or may

be the result of false memories.[260]

193.   *Second*, Mr. Lasinski relies on Mr. Keegan's estimate of the percentage of private

browsing mode users who had a Google account. I understand this measure is also unreliable and

overstated for the same reasons listed in the previous paragraph--mainly because they suffer from

recall bias and may be the result of induced guesses or false recollections.

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[257] Lasinski Report, ¶ 195, Figure 75.

[258] Lasinski Report, Figure 75.

[259] Amir Rebuttal Report, ¶¶ 82–87.

[260] Amir Rebuttal Report, ¶¶ 82–87.

194.   Moreover, Mr. Lasinski's method of allocating class-wide restitution damages based on the number of class members is inconsistent with his methodology for calculating class-wide restitution damages. Mr. Lasinski proposes that class-wide restitution damages be calculated by multiplying the ▮ payment by his estimate of the number of browser instances during the class period. According to Mr. Lasinski's method, the more browser instances there are, the higher the class-wide damages would be even if the number of class members remained constant. To illustrate this, assume that one class member accessed private browsing mode through one browser instance in 2016, and then started accessing private browsing mode using three browser instances in 2017 and continued this activity through the remainder of the class period. Mr. Lasinski proposes that class-wide damages should be increased by ▮ [261] for that one class member alone because that class member started accessing private browsing through two other browser instances. However, he proposes to allocate class-wide damages using the number of class members, in which case this ▮ increase in class-wide damages would be distributed across all class members, including those who accessed private mode through the same browser instance over the entire class period.

VIII.   OPINION 4: MR. LASINSKI'S ASSUMPTION THAT A CLAIMS ADMINISTRATOR COULD IMPLEMENT HIS PROPOSED METHODOLOGY IS SPECULATIVE

195.   Mr. Lasinski claims that the "resulting dollar value of unjust enrichment or restitutionary damage per UMPBI could… be distributed to Class members in the claims administration process as a function of the number of UMPBI deemed attributable to each Class member."[262] However, given the complexities outlined above, and Mr. Lasinski's lack of

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[261] I calculate ▮ as the product of (a) ▮ monthly payment, (b) two additional browser instances per month, and (c) 60 months from 2017 to 2021.

[262] Lasinski Report, ¶ 197.

specificity about how such a distribution would be accomplished, his assertion that a claims administrator could implement his proposed methodology is entirely speculative.

196.   Mr. Lasinski's proposed method for allocating class-wide damages based on browser instances does not provide a practical methodology that would allow a claims administrator to identify Class members and compensate them for the alleged misconduct. Plaintiffs' classes are comprised of individuals who used Chrome Incognito or non-Chrome private browsing modes.[263] Mr. Lasinski does not propose how, in practice, a Claims administrator could reliably identify the following information that is relevant to allocate unjust enrichment or restitution damages to each class member:

- When during the class period each class member browsed in private mode;

- How much time each class member spent browsing in private mode;

- How each class member's frequency and length of private browsing changed over time;

- How much each class member benefited from personalized advertisements;

- How much profit Google earned from data it received from each class-member's At-Issue Data;

- How to determine whether a class member accessed private browsing mode from the same device using multiple browser instances (*e.g.*, Chrome and Edge) so that the class member is not awarded separate damages for each browser (as Mr. Lasinski has opined that class members who accessed private browsing through multiple browsers on the same device should be awarded ▮ for the device, and not ▮ for each browser instance on the same device[264]);

- Which browsing instance(s) are associated with which class member;

- When a class member shared a browser instance, how many users shared the same instance;

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[263] Lasinski Report, ¶ 13.

[264] Lasinski Report, ¶¶ 176, 178, 183-184.

- Which of the users that shared a browser instance are included in the class;

- The amount of time within the months of shared usage that the user browsed in private browsing mode relative to other users of the same instance;

- What is the value of the data associated with the browsing of users who shared the instance but are excluded from the class;

- Each class member's number of browser instances across all affected devices and the entire class period, especially in instances when the user no longer uses the devices;

- The user controls that each class member used to prevent Google from receiving data or benefitting from the data.

197. Mr. Lasinski has not described any data that would allow his proposed allocation method to be implemented by the Court, and I have not seen any such data myself.

IX. OPINION 5: REBUTTAL TO MR. LASINSKI'S OPINIONS REGARDING STATUTORY DAMAGES

198. As described in **Section IV** above, Mr. Lasinski purports to show "how statutory damages could be calculated for the two Classes for the class period."[265] However, Mr. Lasinski does not actually calculate an amount of statutory damages, and only offers an opinion about the base to which a certain rate of statutory damages could be applied. Moreover, Mr. Lasinski does not opine on what he thinks is the appropriate or preferred base that should be used to calculate statutory damages either. Instead, he offers what he calls "four potential bases" for statutory damages without any further opinions about which of those bases should be used by the trier of fact.[266] The four bases he proposes are as follows:

- The number of individual pageloads in Incognito mode or other private browsing modes during the class period;

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[265] Lasinski Report, ¶ 185.

[266] Lasinski Report, ¶ 186.

- The number of unique monthly private browsing instances across the classes during the class period;

- The number of unique private browsing instances across the classes during the class period; and

- The number of members in each class during the class period.

199.   As a starting point, Mr. Lasinski fails to provide any justification for why any of these four numbers he calculates would serve as an appropriate base for statutory damages. Further, his calculation of each of these four bases is flawed and unreliable for various reasons I explain in the remainder of this section. Finally, Mr. Lasinski fails to consider whether there is a reasonable purpose for the allegedly wrongful data collection.

A.   Mr. Lasinski's estimate of the number of individual pageloads in private browsing modes during the Class period is overstated and unreliable

1.   *Summary of Mr. Lasinski's method to estimate private browsing pageloads across the classes during the class period*

200.   Mr. Lasinski estimates that class members visited ████████ websites that utilized Google services while browsing in private mode. To estimate this number, Mr. Lasinski first calculates the "total number of Incognito pageloads in the U.S" in 2021 using UMA data,[267] and then estimates the monthly pageloads in U.S. for Safari and Edge in 2021 "as a function of the Incognito pageloads and publicly available browser market share by month."[268]

201.   To estimate the pageloads visited through Chrome, Safari, and Edge between June 2016 and December 2020, Mr. Lasinski multiplies (a) the average number of pageloads accessed

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[267] Lasinski Report, ¶ 188.

[268] Lasinski Report, ¶ 188.

with each Chrome, Safari and Edge instance per month in 2021 by (b) the number of browser instances that he estimates for each respective browser from June 2016 to December 2020.[269] Mr. Lasinski then decreases the calculated number of pageloads by ███████, as he claims only ███████ of websites did not include the "Google tracking beacons at issue in this matter."[270]

202.   As in his other calculations, Mr. Lasinski assumes that Incognito usage as a share of the total Chrome pageloads remained unchanged throughout the class period.

> 2.   *Mr. Lasinski's estimate of the number of private browsing pageloads is not an economically reasonable base for calculating statutory damages*

203.   As a starting point, Mr. Lasinski does not provide any justification for why the number of pageloads in private browsing modes would be an appropriate base for the calculation of statutory damages. He states in his report that "he understands from counsel" that the "relevant [statutory] damages rate" "could range from $100 to $10,000."[271]

204.   The number of private browsing pageloads does not appear to be an economically reasonable base for calculating statutory damages. If receiving information with each given page load is deemed a separate violation, then using pageloads as a base for calculating class-wide damages and applying the "relevant [statutory] damages rate" provided to Mr. Lasinski would result in statutory damages of between ████████████████████.[272] Note that the U.S. gross domestic product from June 2016 through December 2021 was $116 trillion.[273] This means that,

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[269] Lasinski Report, ¶ 189.

[270] Lasinski Report, ¶ 189.

[271] Lasinski Report, ¶ 186.

[272] I calculate this is Mr. Lasinski's estimated ███████ pageloads multiplied by $100 for the lower bound and $10,000 for the upper bound.

[273] "Gross Domestic Product, Fourth Quarter and Year 2021 (Second Estimate)," Bureau of Economic Analysis, February 24, 2022, available at https://perma.cc/2SYV-EUYM.

if pageloads are used as a base for calculating statutory damages, then the lower bound of statutory damages would exceed the total GDP of the United States during the class period.

205.   Even if pageloads in private browsing were an economically reasonable base for calculating statutory damages, Mr. Lasinski's estimation is overstated for multiple reasons. As discussed elsewhere in this report, Mr. Lasinski ignores evidence in the record which indicates that Incognito is more widely used now than it was at the beginning of the class period. For example, Mr. Lasinski assumes that ███████ of page loads on Android were in Incognito mode during each year in the *entire* class period, even though the ███████ shows that only ███████ ██.[274] Moreover, an internal Google document indicates that the number of Incognito page loads increased by ████████ from November 2018 to November 2019.[275] By ignoring this evidence of growth in Incognito usage, Mr. Lasinski overstates the number of pageloads in private browsing mode because his calculation is based on an estimate of the number of Incognito pageloads in 2021.[276]

206.   Moreover, Mr. Lasinski's calculations rely on Mr. Keegan's estimates of the fraction of Google account holders on each browser and the fraction of private browsing mode users in each browser. Both estimates are unreliable and overstate the percentage of users with a Google account in each year of the class period because (1) Mr. Keegan's survey measures the percentage of users with Google accounts at *any* point in the last five years, not in each year or

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[274] *See* Lasinski Report, Schedule 11.1; GOOG-CABR-04324934–944 at 936.

[275] GOOG-BRWN-00617282. For comparison, according to Google's Responses to Plaintiffs' Interrogatories that Mr. Lasinski relies upon, the total number of Chrome instances in the U.S. increased from ████████ in November 2018 to ████████ in November 2019. This is an increase of about ████████ in the same period that Incognito instances increased by ████████. This shows that the fraction of Chrome instances that browsed in Incognito must have increased during that period. *See* Lasinski Report, Schedules 17.3 and 17.4.

[276] I discuss the reasons why Mr. Lasinski's assumption that private browsing usage was fixed over time in more detail in **Section VI.C.2** above.

month; and (2) I understand from Dr. Amir that Mr. Keegan's survey suffers from other biases

which render its results overstated and unreliable.[277]

B.   Mr. Lasinski's estimate of the number of unique monthly private browsing instances or "UMPBI" across the Classes during the Class Period is also overstated and unreliable

1.   Summary of Mr. Lasinski's method to estimate the number of monthly private browsing instances across the classes during the class period

207.   Mr. Lasinski calculates that there are a total of ▮▮▮▮▮▮ monthly private browsing

instances across the two classes during the class period.[278] As described in **Section VII.A** above,

Mr. Lasinski calculates the number of monthly private browsing instances in 2021 using the UMA

data for Chrome, and by extrapolating the UMA data for Chrome using market shares of different

browsers for Safari and Edge.

2.   Issues with Mr. Lasinski's estimate of the number of monthly private browsing instances

208.   Mr. Lasinski does not provide any justification for why the number of monthly

private browsing instances would be an appropriate base for the calculation of statutory damages.

209.   The number of monthly private browsing instances does not appear to be an

economically reasonable base for calculating statutory damages. If the "relevant [statutory]

damages rate" of $100 to $10,000 that Mr. Lasinski provides in his report[279] is applied to the

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[277] I understand from Dr. Amir that Mr. Keegan's survey results related to the questions of whether a user used a private browsing mode or had a Google account in the previous five years are unreliable because they are based on the respondent's recall over a broad time horizon and may therefore be the result of guesses or false recollections. For example, Dr. Amir explains that "Mr. Keegan's survey directly suggests to respondents that they should focus on private browsing mode and may lead them to answer that they have used private mode even if they have not." *See* Amir Rebuttal Report, ¶¶ 82–87.

[278] Lasinski Report, ¶ 191.

[279] Lasinski Report, ¶ 186.

number of monthly private browsing instances during the class period, statutory damages would be between ██████████████████████.[280] Alphabet's total net profit from June 2016 through December 2021 was ████████,[281] which is less than the lower bound of statutory damages. In other words, if monthly private browser instances, which represent less than ██████████ of the total traffic on any browser, is used as a base for calculating statutory damages, the amount of statutory damages would be greater than the profit Alphabet earned from all products and services during the entire class period.

210.   In addition, using the number of monthly private browsing instances as a base for calculating statutory damages assumes that statutory damages are largely a function of the number of devices through which users accessed private browsing mode. If a user has four devices, then all four devices would be counted in Mr. Lasinski's number of monthly private browsing instances. The more devices there are, the higher the statutory damages would be even if nothing about the browsing activity changed. This means that the statutory damages calculated using the number of monthly browsing instances are driven, in part, by users' ability and willingness to purchase more devices.

211.   Separate from being an economically unreasonable base for calculating statutory damages, Mr. Lasinski's number of monthly private instances is also overstated and unreliable. First, Mr. Lasinski's estimate of the number of browser instances used to browse in private browsing mode prior to 2021 is overstated because it is based on data for 2021 even though case evidence indicates that the usage rate of Incognito mode was lower in prior years. For example, an

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[280] None of the statutory damages that are based on the upper range of the statutory rate are economically reasonable as they range between approximately $44 trillion and $14 quadrillion because they exceed the amount of revenue that Google generated from all services and products during the entire class period.

[281] *See* **Exhibit 2.A**. This exhibit also shows that the lower bound of statutory damages calculated using Mr. Lasinski's base exceed Alphabet's operating income during the class period ██████████).

internal Google email shows that the percentage of instances that browsed in Incognito increased

by ▮▮▮▮▮▮▮ between November 2018 and November 2019.[282]

212.   Second, Mr. Lasinski ignores that one user may access Incognito browsing through

multiple Chrome instances from the same device in a given period, as would be the case in months

when users switched devices or reinstalled Chrome on their existing device.[283] Mr. Lasinski does

not explain why switching devices or reinstalling Chrome should have any impact of statutory

damages.

213.   Third, as explained in **Section VII.D.3** above, Mr. Lasinski's calculation overstates

the number of class members because it relies on two overstated and unreliable measures derived

from Mr. Keegan's survey. Specifically, Mr. Lasinski relies on the percentages of participants in

Mr. Keegan's survey that indicated they used private browsing mode for each browser at any point

in the last five years, and the percentages of participants who indicated they had a Google account

at any point in the last five years. However, I understand from Dr. Amir that Mr. Keegan's survey

results related to these questions are unreliable because they are based on the respondent's recall

over a broad time horizon and may be the result of guesses or false memories.

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[282] GOOG-BRWN-00617282. For comparison, according to Google's Responses to Plaintiffs' Interrogatories that
Mr. Lasinski relies upon, the total number of Chrome instances in the U.S. increased from ▮▮▮▮▮▮ in
November 2018 to ▮▮▮▮▮▮ in November 2019. This is an increase of about ▮▮▮▮▮▮ in the same period that
Incognito instances increased by ▮▮▮▮▮▮. This shows that the fraction of Chrome instances that browsed in
Incognito must have increased during that period. *See* Lasinski Report, Schedules 17.3 and 17.4.

[283] Sadowski Deposition, p. 41.

C. **Mr. Lasinski's estimate of the unique private browsing instances across the classes and class period is also unreliable**

1. *Summary of Mr. Lasinski's method to estimate the number of unique private browsing instances across the classes during the class period*

214.   For his third base, Mr. Lasinski estimates what he calls "peak UMPBI for each browser" to purportedly "mitigate double-counting of instances for users" who browsed in private modes in more than one period.[284]

215.   Mr. Lasinski's number of unique private browsing instances is the highest monthly number of unique browser instances in 2021 for each of the three browsers, adjusted downward to purportedly exclude users without Google accounts and signed out users. This yields his estimated total of ████ "unique private browsing instances" across the class period.[285]

2. *Issues with Mr. Lasinski's estimate of the number of private browsing instances*

216.   Mr. Lasinski does not explain why the number of private browsing instances in one month is an economically reasonable base for calculating statutory damages. This number would not include private browsing instances of class members who used private browsing mode in other months, but not in the month of "peak" browser instances. If this base is used to calculate statutory damages, then the class-wide statutory damages would not include statutory damages for class members who did not access private mode in the "peak" month. As a result, a portion of the statutory damages for the class members who did browse in private mode during the "peak" month would be allocated to class members who did not browse in private mode during the "peak" month.

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[284] Lasinski Report, ¶ 192.

[285] Lasinski Report, ¶¶ 192–193.

217.   In addition, because it is based on the number of monthly private browsing instances, this base is flawed and unreliable for some of the same reasons discussed in **Section IX.B** above. In short, Mr. Lasinski's estimated number of private browsing instances may be overstated because users may reinstall Chrome on a device, replace their devices, and because Mr. Lasinski's calculations depend on unreliable results from Mr. Keegan's survey.

D.   Mr. Lasinski's estimate of the number of class members in each class during the class period is overstated and unreliable

1.   *Summary of Mr. Lasinski's method to estimate the number of class members*

218.   Mr. Lasinski estimates that there are ▮▮▮▮▮▮ class members. His estimation of the number of class members begins with the number of internet users in the U.S. in 2021.[286] Mr. Lasinski multiplies this number of internet users by the market share of each of the three at-issue browsers (Chrome, Edge and Safari) to obtain an estimate of internet users per browser. He then removes (1) the estimated fraction of users who did not use private browsing mode at all during the class period using results from Mr. Keegan's survey,[287] (2) estimated number of users without Google accounts also from Mr. Keegan's survey, and (3) estimated users who browsed in private mode while signed out. Mr. Lasinski estimates that the classes include nearly half of all Chrome, Edge and Safari users.[288]

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[286] Lasinski Report, ¶ 194.

[287] *See* Keegan Report, ¶ 32. Mr. Lasinski argues that his calculation only uses the number of internet users in 2021 "to mitigate potential double-counting of individuals who used the internet in more than one period."

[288] Lasinski Report, Figure 75.

2.   Issues with Mr. Lasinski's estimate of the number of class members

219.   There are two main issues with Mr. Lasinski's methodology for calculating the number of class members. As explained in multiple sections in my report,[289] Mr. Lasinski overstates the percentage of users who used the respective private browsing mode while signed into their Google account.[290] Specifically, Mr. Lasinski relies on Mr. Keegan's percentage of private browsing mode users for each browser. This means for example, that Mr. Lasinski concludes that ▆▆▆▆▆▆ of U.S. Chrome users have used Incognito during the class period and ▆▆▆▆▆▆ of Safari users have used private browsing mode during the class period.[291] Similarly, Mr. Lasinski relies on Mr. Keegan's estimate of the percentage of private browsing mode users who had a Google account.

220.   As discussed in **Section VI.C.4** above, I understand from Dr. Amir's rebuttal report that Mr. Keegan's survey results related to the question of whether a user used a private browsing mode or had a Google account in the previous five years are unreliable because they are based on the respondent's recall over a broad time horizon and may therefore be the result of guesses or false recollections.[292] As a result, the percentage of private browsing mode users, and the

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[289] *See* **Section VI.C.2** and **Section VII.C.2 above**.

[290] Mr. Lasinksi's proposed number of class members also includes minors. To the extent minors are excluded from the classes, then Mr. Lasinski overstates the number of class members by approximately ▆▆▆▆. Specifically, there are approximately 53.5 million children ages 5 to 17 in the U.S., and approximately 71 percent (or 38 million) of children in the U.S. use the internet. Excluding internet users who are minors decreases Mr. Lasinski's estimate of class members from ▆▆▆▆▆▆▆▆ (or by ▆▆▆▆). I calculate this number by subtracting ▆▆▆▆ internet users from Mr. Lasinski's calculation in Figure 75 of his report and following the rest of his methodology. This calculation assumes that children younger than five do not use the internet. *See,* "Kids Counter Data Center," The Anne E. Casey Foundation, available at https://perma.cc/5SGA-LN6A; National Center for Education Statistics, "Student Access to Digital Learning Resources Outside the Classroom," U.S. Department of Education, April 2018, p. 18, available at https://perma.cc/9RZE-GTLP.

[291] Lasinski Report, Figure 75.

[292] Amir Rebuttal Report, ¶¶ 82–87.

percentage of users with a Google account that Mr. Lasinski uses in his calculations are unreliable and overstated.

221.   Because Mr. Lasinski's estimate of the number of class members increases with both the fraction of users who used private browsing modes, and with the percentage of those users who had a Google account, these issues with Mr. Keegan's results cause Mr. Lasinski to overstate the number of class members.

E.   It does not appear that Mr. Lasinski has proposed how statutory damages could be allocated to individual class members, or that this allocation can be done on a class-wide basis

222.   Mr. Lasinski does not mention statutory damages in the section of his report that pertains to methods to allocate class-wide damages. To the extent his proposed allocation methods are intended to apply to statutory damages, his methods do not indicate how the users who might be entitled to statutory damages could be identified, or how variability in violations that Google allegedly committed in relation to different class members could be accounted for when calculating statutory damages. If this variability is not taken into account, then class members may be under- or over-compensated.

223.   To the extent the methods he proposes in his report for allocating class-wide damages do not apply to statutory damages, then Mr. Lasinski has not proposed how the statutory damages could be allocated to individual class members, or that this can be done on a class-wide basis.

F.   Mr. Lasinski fails to consider whether there is a reasonable economic purpose for the allegedly wrongful data collection.

224.   I understand that statutory damages under CIPA need not be awarded "mechanically" in matters such as this one, and courts may exercise discretion based on certain criteria.[293]

225.   For example, Mr. Lasinski fails to consider that there is a reasonable economic purpose for Google's alleged misconduct, namely that Google's receipt of the At-Issue Data allows Google to improve the user experience and provide services at no cost to Plaintiffs and class members.

226.   I understand that Google's receipt of the At-Issue Data improves the user's experience when browsing the web. For example, I understand Dr. Georgios Zervas's report shows how some websites use certain third-party services that may transmit some of the At-Issue Data, including when a user browses in a private browsing mode, to improve the user's online experience and provide services such as payment processing, personalized ads, or facilitating user browsing by storing user preferences such as language, login status, or an item placed on an online shopping cart.[294] As discussed in **Section V.B** above, these benefits that consumers receive from the personalization of their online experiences provide value to at least some users by improving their online shopping experiences, as well as personalized online content, customization of services, and personalized coupons, offers, and discounts.

227.   Internet users who browse in private browsing modes enjoy these benefits at no monetary cost, at least in part, because of Google's ability to monetize the At-Issue Data. Although

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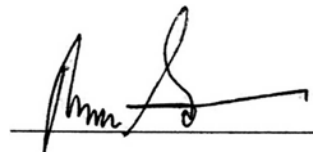
[293] Order Granting in Part and Denying in Part Motion for Class Certification, in Re: Matthew Campbell, et al., v. Facebook Inc., Case No. 13-cv-5996-PJH (Dkt 192), filed May 18, 2016, pp. 25–27.

[294] Zervas Report, April 15, 2022, ¶¶ 39-40, 44-46.

there is variability among users in the benefits they receive from the various improvements to their browsing experience enabled by Google's receipt of data, these items may be considered reasonable purposes for the receipt of the At-Issue Data. However, Mr. Lasinski has not outlined or discussed these considerations in his methodology to calculate statutory damages.

Signed on the 27th day of May, 2022, at Calistoga, California.

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Bruce A. Strombom

Exhibit 1

Publicly Available Articles Discussing Information that Google May Be Collecting About Users in Incognito Mode

Count	Date	Source	Title	Quotes
[1]	11/4/2008	CMP TechWeb	Google Chrome Privacy Issues Prompts Plea To Google Execs	"Chrome's Incognito mode, like Microsoft Internet Explorer 8 Beta 2's InPrivate mode and Apple Safari's Private Browsing mode, creates a window in which, as Google puts it, nothing 'is ever logged on your computer.'" [...] "**Incognito, according to Google's statement, is intended to prevent information from being left on the user's computer. It is not, in other words, an anonymization service** "[...]"**Consumer Watchdog argues that Chrome's Incognito mode does not confer the privacy that the mode's name suggests and that Chrome's blurring of local and remote computing 'creates confusion in the consumer's mind about the privacy and security of confidential information.**"
[2]	9/24/2014	Al Jazeera	Ask the Decoder: How private is private browsing, really?	"But private browsing **doesn't mask your activity from Internet service providers, search engines or websites that you visit**. Sites that you go to still receive information about you like location, browser information and IP address. **Cookies are still dropped and are cleared only when you close the window.**"[...]"**Depending on what information you are trying to protect and from whom, private browsing might not be the right solution.**"
[3]	10/10/2014	Guiding Tech	Is Chrome's Incognito Really Private? 4 Things About It	"Well, **nothing** really is private these days but if you're thinking that switching to incognito mode is going to magically cloak your internet behavior, you're wrong."
[4]	9/17/2016	Bustle	These Are all Good Reasons to Use Incognito Mode	"When you open a browser window in private or incognito mode, the browser stops storing all the various stuff it usually stores about sites as you putter around the information superhighway. Typically, this stored stuff includes things like the site's URL, text you may have typed into the site's forms, and cookies from websites (that enable the browser remember your language preference or save your digital shopping cart, for instance). And, very obviously, when you are not in private browsing mode, the browser logs sites you've visited into your 'history' log, along with the date and time of the visit. **Incognito mode doesn't offer complete privacy**. Your internet service provider still knows where you've browsed, so while incognito mode might hide your searches from your mom, it can't really help you hide from the police and their subpoenas. If someone like your employer is monitoring all of its network's activity from a central location, they'll know where you (or your computer) has navigated, too. But for personal day-to-day purposes, the incognito mode is really valuable."
[5]	2/22/2017	Spread Privacy	Tracking in 'Incognito' or Private Browsing Mode?	"It may surprise you that **ads can still follow you around in 'Incognito' and other 'private browsing' modes**. That's because Incognito mode isn't really private." […] "**Incognito mode** only deletes your local search and browsing history—just the content on your computer. **Websites, search engines, Internet service providers, and governments can still easily track you across the web.**" [...] "Using Incognito mode to keep you private online is kind of like using a bucket to put out a raging fire."

Exhibit 1

Publicly Available Articles Discussing Information that Google May Be Collecting About Users in Incognito Mode

Count	Date	Source	Title	Quotes
[6]	4/4/2017	Computerworld	You are not very incognito in incognito mode	"A surprisingly high percentage of people **mistakenly think that going incognito hides their activity from all prying eyes. As Google's description of incognito mode makes clear**, this is not the case." […] "**However, you aren't invisible. Going incognito doesn't hide your browsing** from your employer, your internet service provider, or the websites you visit." [...] "Basically, incognito mode just means that the browser doesn't save cookies, temporary internet files or your browsing history when you are in incognito mode. The main thing it does is hide your browsing history from other people who use the same computer."
[7]	7/5/2017	How To Geek	How Private Browsing Works, and Why It Doesn't Offer Complete Privacy	"Private browsing offers some improved privacy, but it's not a silver bullet that makes you completely anonymous online." [...] "When you enable Private Browsing mode – **also known as Incognito Mode in Google Chrome** and InPrivate Browsing in Internet Explorer – your web browser doesn't store this information at all. When you visit a website in private-browsing mode, your browser won't store any history, cookies, form data – or anything else." [...] "Private browsing protects you from people with access to your computer snooping at your browsing history – your browser won't leave any tracks on your computer. It also prevents websites from using cookies stored on your computer to track your visits. **However, your browsing is not completely private and anonymous when using private-browsing mode.**" [...] "Private Browsing prevents your web browser from storing data about you, but it doesn't stop other applications on your computer from monitoring your browsing. Private browsing prevents people from snooping on your web browsing after it's occurred, but they can still snoop while it's occurring – assuming they have access to your computer." [...] "Private browsing only affects your computer. Your web browser can decide not to store browsing activity history on your computer, but it can't tell other computers, servers, and routers to forget your browsing history." [...] "Private browsing doesn't stop any of this logging. It doesn't leave any history lying around on your computer for people to see, but your history can always be – and usually is — logged elsewhere."
[8]	11/19/2017	Thrillist	What Chrome's Incognito Mode Is Actually For, Explained By a Google Exec	**"When you use Incognito Mode, your browsing activity does not get recorded to the physical device you're using. That doesn't mean all of what you do is necessarily invisible to the people you want to keep in the dark."** [...] "For example, if you log on to your employer's Wi-Fi using Incognito in hopes of getting away with something shady online, a savvy superior could easily watch as you go about your business. As more and more sites opt to more secure 'https' domains this is becoming less of an issue, but the fact remains that Incognito Mode will not protect you from snoops in this scenario." [...] "When you launch the Incognito tab there's this disclaimer there where we really try to help make it really clear to people that your activity is certainly still visible to the websites you visit and could be visible to your employer, to your school your, and to your ISP [internet service provide] of course,' he says."

Exhibit 1

Publicly Available Articles Discussing Information that Google May Be Collecting About Users in Incognito Mode

Count	Date	Source	Title	Quotes
[9]	11/20/2017	Trusted Reviews	Explained: What Does Google Chrome's Incognito Mode Actually Mean?	**"Incognito mode in Google Chrome is not as private as it might first seem, as people managing the network you're on can snoop on what you've been trying to browse privately."** [...] **"Chrome's** incognito mode is not a 'privacy mode', so while Chrome won't track hoover up your browsing history, cookies or site data when going incognito, your browsing is not invisible to all. 'When you launch the incognito tab there's this disclaimer there where we really try to help make it really clear to people that your activity is certainly still visible to the websites you visit and could be visible to your employer, to your school, and to your [internet service provide] of course,' said Fisher. When entering incognito mode, Chrome now serves up a brief message spelling out exactly what the mode will do, noting that browsing activity "might still be visible" to all manner of people and services." [...] "Incognito mode is best used to hide your browsing activity on a device that others will use, rather than try and use it to hide from network administrators."
[10]	11/20/2017	The Independent	If You Use Incognito Mode, You Should Read This	**"People can still monitor what you do online even when you use Google Chrome's incognito mode, a Chrome developer has explained.** While incognito mode stops Chrome from saving your browsing activities, they could still remain visible to others." [...] "'When you launch the incognito tab there's this disclaimer there where we really try to help make it really clear to people that your activity is certainly still visible to the websites you visit and could be visible to your employer, to your school, and to your [internet service provide] of course,'" [...] "Indeed, whenever you enter incognito mode or open a new incognito mode tab, a short message appears on-screen, briefly explaining how it works. It says Chrome won't save your browsing history, cookies and site data, and information entered in forms, when you're in incognito mode. However, Google adds that your activity 'might still be visible to' websites you visit, 'including the ads and resources used on those sites'; your employer, school, or whoever runs the network you're using; and your internet service provider. Google reiterates this on its incognito mode help pages, saying, 'Your activity isn't hidden from websites you visit, your employer or school, or your internet service provider.'"
[11]	11/20/2017	Metro UK	Google Says Chrome's Incognito Mode Was Not Designed to Let People Secretly Watch Porn	"He said: 'When you launch the Incognito tab there's this disclaimer there where we really try to help make it really clear to people that your activity is certainly still visible to the websites you visit and could be visible to your employer, to your school, and to your ISP [internet service provide] of course'"

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[12]	11/21/2017	The HuffPost	Google Chrome's Incognito Mode Isn't That Incognito	"A developer for Google's Chrome browser has finally confirmed some bad news, **Incognito Mode on Chrome isn't actually that Incognito. In fact most browsers who offer a 'private browsing' mode won't be able to keep the websites you visit hidden from your internet provider or your boss."** [...] "while Chrome's secretive browsing feature is still very useful, it's absolutely not going to be keeping your employer from seeing what you do, which is in fact why it's only called Incognito Mode and not something more definitive. Instead what Incognito Mode actually does is 'pause' the recording processes that go on from cookies to browsing history and even searches."
[13]	12/14/2017	CNET	Brave Browser Offers to Boost Your Online Search Privacy	"Private browsing, also known as incognito in Google's Chrome browser, is a special browser mode that doesn't leave traces of your browsing history on your computer. But Brave Software says searches with DuckDuckGo will help keep your **personal behavior details** from **leaking out onto websites**, too." [...] "'**A lot of people think their searches aren't tracked in private browsing mode. Unfortunately, that's not true,**' DuckDuckGo Chief Executive Gabriel Weinberg said in a statement. DuckDuckGo doesn't collect any private information, though, he said."
[14]	2/27/2018	Daily Express	Chrome Warning: Your Browser's Private Mode Is Not As Private As You Think, Says Research	"Most modern browsers boast this feature, including Private Browsing in Mozilla Firefox, InPrivate in Microsoft Edge, Incognito Mode in Google Chrome, and Private Window in Safari." [...] "**However, researchers from the Massachusetts Institute of Technology have warned users their browsing history will often still remain on the machine, in RAM or temporary storage."** [...] **"According to the researchers, each time you visit a webpage – even anonymously – the data from the site is loaded into memory, displayed and cached."**
[15]	6/19/2018	Consumer Reports	What Your Web Browser's Incognito Mode Really Does	"'Private browsing mode does some useful things, but you're absolutely not anonymous, you're not 'incognito,' and your secrets are not necessarily safe' from hackers or marketers"
[16]	7/12/2018	CNBC	There Are A Lot of Misconceptions about Browsing the Web in 'Incognito' Mode, Researchers Say	"Google's Chrome web browser, for example, says that it doesn't save your browsing history, cookies and site data or information entered into forms. **This doesn't mean that data — such as the websites you visit — isn't available to your school, employer or internet provider.** Google warns as much when you start using incognito mode." [...] "If anything, the research shows that there are a lot of misconceptions about what's logged and what isn't when you're using incognito or private mode on a browser."
[17]	7/16/2018	Digital Informant	Research Busts Popular Myths About Incognito Mode	"it was discovered that people incorrectly assumed that incognito mode was capable of doing much more than what it can actually do. **Even though browsers, like Google Chrome, clearly mention that schools/employers /Internet providers can still have data on browsing history, people tend to ignore this warning quite easily."**

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[18]	7/31/2018	Avast	How Private Is Private Browsing? The Secret's Out: Reports of the Privacy of Private Browsing Have Been Greatly Exaggerated	"Some browsers **even explicitly indicate that your web history and personal information is not entirely protected** during or after a private session. Google Chrome, for example, includes a disclaimer noting that web activity may still be visible to internet service providers, employers and schools." [...] " It does not function as an internet black hole. **A record of your browsing history still exists, and it can still be tied back to you**. The bottom line is that most users have very little control over which organization actually end up seeing their browsing history." [...] "In short, the **information you thought you were protecting by browsing in private/incognito mode actually hasn't been protected at all,** which means your information is still visible to entities other than yourself"
[19]	8/22/2018	The Independent	Google Chrome's Private Incognito Mode Leaks Way More Personal Data Than You Might Think	"**Google could continue to collect personal data from users, even if they use the incognito mode in the Chrome web browser**, a study has found." [...] "**Google claims that it will not save browsing history, cookie, site data or information entered in forms, however it warns that browsing activity may still be visible to websites, internet service providers, or the school or employer that controls the network.**" [...] "Google utilizes the tremendous reach of its products **to collect detailed information about people's online and real-world behaviors, which it then uses to target them with paid advertising.**" [...] "There are a number of different ways that Google may use location to improve people's experience, including: Location, History, Web and App Activity, and through device-level Location Services." [...] "Google has updated the 'help section' on its website to make it clear that **some data is still collected even when the location history feature is switched off.**"
[20]	8/22/2018	The Sun; NYPost	Google's Incognito Mode Isn't As Private As You Thought	"**Google can still record the websites you browse while in Incognito Mode on the Chrome browser and link them to your identity**." [...] "If you log back into Google before leaving Incognito Mode, Google will be able to retroactively link your browsing data to your account."
[21]	8/22/2018	Techspot	Google Chrome's Incognito Mode May Not Be As Private As You Think	"In an e-mail to AdAge, a Google spokesperson does not link signed-out activity with a user's Google account information. 'We do not associate incognito browsing with accounts you may log into after you've exited your Incognito session. And our ads systems have no special knowledge of when Chrome is in incognito mode, or any other browser in a similar mode (ex: Safari Private Browsing, Firefox Private Browsing). We simply set and read cookies as allowed by the browser.'"
[22]	11/7/2018	Quora	The Myth of Incognito Mode (from Quora "How Anonymous Is DDG")	"It is simply a myth that Incognito mode protects your online privacy in any significant way; it is really more of an offline protector."

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[23]	12/4/2018	Digital Trends	Google Denies Claim That It's Tracking Internet Users When Incognito Mode Is On	"DuckDuckGo claimed that Google is using personal information — ranging from search and browsing history to online purchases — to tailor search results in what the competitor calls 'Google's filter bubble.' [...] 'As part of its findings, DuckDuckGo noted that participants saw search results that were unique to them. Moreover, **enabling private browsing mode did little to affect how search results could vary from user to user.'** Private browsing mode and being logged out of Google offered very little filter bubble protection. These tactics simply do not provide the anonymity most people expect. In fact, it's simply not possible to use Google search and avoid its filter bubble."
[24]	12/5/2018	The Next Web	Google Reportedly Personalizes Search Results Even When You're in Incognito Mode	"a new study from privacy-focused search engine DuckDuckGo says that Google search results are uniquely tailored to users, even when they're logged out or browsing in incognito mode."
[25]	3/11/2019	Spread Privacy	How Anonymous Is DuckDuckGo?	"Unfortunately, people think that they can make searching Google and browsing the rest of the web anonymous by using Chrome's so-called 'Incognito' mode (also known as Private Browsing mode) or its 'Do Not Track' browser setting. **Sadly, neither of these mechanisms protect you from Google search tracking or its trackers on other websites"** [...] "That is, while in Incognito mode, Google is still tracking your searches, and can use them to send intrusive ads at you across the Web on the millions of sites and apps that run Google ads. Sure, your search or browser history won't be on your computer, but Google still knows it."
[26]	4/8/2019	Tech Radar	Does Google Chrome Have Its Own VPN?	**"However, as soon as you enter Chrome's Incognito Mode, it becomes clear it's not the solution truly privacy-conscious users want."**
[27]	4/12/2019	Fast Company	Incognito Mode Won't Keep Your Browsing Private. Do This Instead	"The problem with incognito modes is they provide a **false sense of security**." […] "Despite what most people assume, **incognito modes are primarily built to block traces of your online activity being left on your computer–not the web**. Just because you **are using incognito mode, that doesn't mean your ISP and sites like Google, Facebook, and Amazon can't track your activity**." [...] "This is especially true if you log into any of these sites in your browser after you're in an incognito window–the companies can still see everything you do. And it's the same for any other site you need to log in to. So remember that if you're logged in to a website, no matter if you are using incognito mode, or even a VPN, the website's owners can see exactly what you are doing."

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Count	Date	Source	Title	Quotes
[28]	4/13/2019	Indy100	Google Chrome Incognito Mode Isn't As Private As You Think It Is, Here's What You Should Be Doing	**"Incognito Mode only hides traces of your activity online from those using your computer, not the internet.** **It blocks third-party cookies and pauses your internet history, but this has little effect on your ISP and whichever sites you visit being able to follow your activity.** This problem intensifies further when you log into a website, even if you do so before or after opening an Incognito window. The companies can still track wherever you visit on the internet."
[29]	4/16/2019	Cosmopolitan UK	Sorry, But Google Chrome Incognito Isn't As Private As You Think	"According to Indy100, 'Incognito Mode' actually only hides traces of your online activity from those using that specific computer, as opposed to the internet as a whole. So while it blocks third-party cookies - and stops your activity ingraining itself into your internet history - it has little effect on your ISP. **On top of this, 'Incognito Mode' doesn't stop websites being able to follow your activity, meaning that companies can still track wherever you visit on the internet and what you're searching, even if you're trying to keep it private.** A study from Vanderbilt University also revealed that Google can still record the websites you browse while in Incognito Mode on the Chrome browser and link them to your identity, if you're logged into your Google account. 'While such data is collected with user-anonymous identifiers, Google has the ability to connect this collected information with a user's personal credentials stored in their Google Account,' the study explained."
[30]	5/14/2019	Android Police	Google Search Gets New Account Picker with Incognito Mode	"Recently, another new feature has rolled out to many users – the app now includes an incognito mode, depicted in the screenshot above as Use without an account."

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[31]	6/27/2019; 7/14/2019; 7/14/2019; 7/14/2019; 7/21/2019	The Washington Post; The Birmingham News; Huntsville Times; Press-Register; The Plain Dealer	How to Fight the Spies in Your Chrome Browser	"Don't count on Incognito mode to protect your privacy. Or a VPN." [...] **The 'private' browsing mode in Chrome probably doesn't do what you think it does. Incognito is the privacy equivalent of using an umbrella in a hurricane. It keeps information from being saved on your computer's search and browsing history, which is only useful if you want to hide your activity from other people who share your browser. It does not stop websites, search engines and Internet service providers from tracking what you do."** [...] "A VPN, or virtual private network, can obscure what you do online from your Internet service provider, including your work, school or someone spying locally on your network. But if you're logged into Google or Facebook, **a VPN won't stop the tech giants and their partners from tracking your searches and other things you do in Chrome**." [...] "A great place to start is by telling Google itself to stop some of the tracking of your online activity that it associates with your Google account." [...] "**Make sure you're not using Chrome Sync.** In your Chrome browser, tap the circular icon in the top right corner to make sure you're not signed in with your Google account and using the Sync function. **This would allow Chrome to pass your browsing history to Google**. (The data would be private if you also set a passphrase in Chrome, but most people haven't done that.) While you're at it, tell Chrome not to automatically log in the browser to your Google account whenever you sign in to Gmail."
[32]	7/18/2019	Mashable	No, Incognito Mode Won't Keep Your Porn Habits Private. This Will.	"Incognito mode won't keep your secrets." [...] "Many people believe it renders their online browsing private, when in reality it just prevents Chrome from "'[saving] your browsing history, cookies and site data, or information entered in forms." **Importantly, Google warns users, when using Incognito mode '[your] activity isn't hidden from websites you visit, your employer or school, or your internet service provider.'"**
[33]	7/20/2019	Wired	Google Chrome's Incognito Mode Is Way Less Private Than You Think	"Despite the long-known fact that **Incognito isn't truly anonymous**, new research has re-emphasized that **Google and other web browsers are still tracking you in privacy mode**, even on the most sensitive of sites." […] "**In incognito mode, your data is tracked in exactly the same way as normal mode**."

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Count	Date	Source	Title	Quotes
[34]	8/20/2019	US Cyber Security Magazine	Incognito Mode: Are You Really Incognito?	"A lot of people have a wrong impression of Incognito Mode. Some users think this browsing mode covers your tracks completely from anyone, including both other computer users and the government. However, in reality, Incognito Mode is simply a way to keep your browsing history hidden. Additionally, Incognito Mode ensures that you log out of public computers without the computers storing your data." [...] "Incognito Mode handles your privacy by dealing with the cookies and browsing history." [...] "Therefore, it's important to know that hiding your internet activities from Google is only possible if you do not use and of your Google accounts." [...] "Can Incognito Mode Hide Your Location? This is a common misconception that results in a lot of people assuming that their online footprint is invisible. However, Incognito Mode is not a VPN tool, which means that any server you connect to will have information regarding your ISP, IP address, country of origin, etc. The only way one could hide such information is using a VPN software, or possibly using Tor browser or Opera." [...] "Incognito Mode is an excellent method of hiding your personal information from anyone else who is using the same computer as you do." [...] **"It's important to remember that Incognito mode doesn't provide complete privacy. You can still leave a trace on your Google account if you log in during Incognito mode use.** Furthermore, Incognito mode browsing is not the same as using a Virtual Private Network. Incognito mode can cover your tracks, but only from those in your immediate vicinity."
[35]	9/16/2019	PCMag	Private Browsing Won't Protect You From Everything	"In the past several years, most internet browsers have added a private browsing mode aimed at protecting user privacy. Chrome calls it Incognito Mode; it's Private Browsing in Opera, Safari, and Firefox. Characterized by dark-color themes and icons of masked figures, these modes can give a user the impression they're browsing anonymously." [...] "In practice, however, websites can still discover your identity by correlating other information, such as your IP address, device types, and browsing habits (time of day, pages visited, and so on). **Private browsing hides none of that data. Big tech companies such as Facebook and Google have plenty of information about users, and by connecting the dots, they can identify you, even if you haven't logged into your account."**

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[36]	10/4/2019	CNN	Google Maps Incognito Mode Mostly Hides You from You	"The company announced this week a series of new privacy tools across its various apps, including a mode that lets you cut down on recording where you're going or where you've been and pause location sharing. (Those locations won't be saved to your Google account and the app won't use them to suggest destinations to you). But the feature, which is available on Android now and coming to iOS soon, has significant limitations. 'Turning on Incognito Mode in Maps does not affect how your activity is used or saved by internet providers, other apps, voice search, and other Google services,' the company clarifies in a message." [...] "In Chrome, a warning pops up when you switch on incognito mode to tell user activity could still be visible to websites you visit, your employer or school and your internet provider."
[37]	11/11/2019	Metacompliance	3 Reasons to Browse the Internet in Incognito Mode	"While Incognito Mode can erase any data stored on your own PC, **your true IP address is still visible to all.** This means that your Internet Service Provider, your employer, the government or any of the websites you've visited can still track your browsing activities."
[38]	11/21/2019; 12/3/2019	TechTalks; TheNextWeb	Google Chrome Privacy: Can You Trust the Incognito Window?; Don't Trust Google Chrome's Incognito Mode	"Incognito window provides a measure of privacy if you're browsing on a shared computer." […] "Unfortunately, **many people don't understand the privacy implications of Google's Incognito window and end up trusting it more than they should. According to a study by researchers at the University of Chicago and Leibniz University of Hannover, many users wrongly think Google's Incognito mode and other private browsing windows will protect them against** malware, **advertising, tracking codes and the monitoring by connection gateways**." […] "**Interestingly, Google clearly spells out everything you can expect from Incognito mode when you open a new private window**. According to Google, 'Now you can browse privately, and other people won't see your activity. What does activity mean? Google Chrome keeps track of the webpages you visit to make it easier for you to return to those pages in the future.'" […] "Moreover, if you've synced your Chrome browser with your Google account, every page you visit will be registered in your online browsing history. This means that if you go to another computer and sync your Google account on a new Chrome browser, your browsing history will be transferred over. The Incognito window will not log your browsing history and will delete traces of the webpages you visit after you close it. The privacy benefit you get is that the next person who sits behind your computer won't be able to look at your browsing history." […] "When you fire up a new Incognito window, none of your cookies are carried over." […] "The privacy benefit of Incognito window is that you will be able to browse to different pages without traceable cookies (there's a caveat to this that I will mention later)." […] "Therefore, the next person who sits behind the computer won't be able to access the accounts you were using when in Incognito mode, even if you had forgotten to log out before closing the window." […] "The Incognito window deletes all information you entered in forms when you close it, which gives you better privacy on shared."

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Count	Date	Source	Title	Quotes
[39]	11/30/2019	Reclaim the Net	YouTube Incognito Sessions Influence Home Feed Recommendations, Despite Google's Claims That They're Private	**"However, new evidence suggests that this Incognito mode is not as private as YouTube makes it seem and that watch history from Incognito sessions actually influences users' future home feed recommendations."** [...] "Recent research on misconceptions about private browsing modes suggests that 56.3% of people believe that their search queries are not saved while in private browsing modes, even if they're logged into their Google account."
[40]	12/8/2019	Inc.	Google Calls It Private Browsing. Oh, No It Isn't	"Google is very clear just how private this form of browsing is: First of all: *Downloads and bookmarks will be saved.* Then there's this: *Your activity might still be visible to: Websites you visit, your employer or school, your internet service provider.* Your employer? Your school? That really doesn't sound so good, does it? The truth is that private browsing is as private as our playing a video with the sound on at the airport. It's always worth being careful in interpreting product names. The name Incognito implies that you can hide from prying eyes. The truth, though, is a little different. Or, indeed, entirely different. It's not as if Google is alone in offering this kind of troubling misnomer."
[41]	12/12/2019	The Guardian	Can DuckDuckGo Replace Google Search While Offering Better Privacy?	"DuckDuckGo is therefore undercutting Google 'on price' by not collecting any information, not storing your searches, and not tracking you across the web. This means it can't sell personalised advertising, and it can't deliver personalised search results. Also, governments can't get your data, because there isn't any."
[42]	6/24/2020	Reuters	New Google Default Wipes Users' Location, Web History After 18 months	"Users can more easily search in what Google calls 'incognito mode,' by just holding down their profile picture at the top of the search, Maps or YouTube apps. Previously, an additional click in the apps' menu was required. **Google does not keep a log of users' activity when they are in incognito.**"

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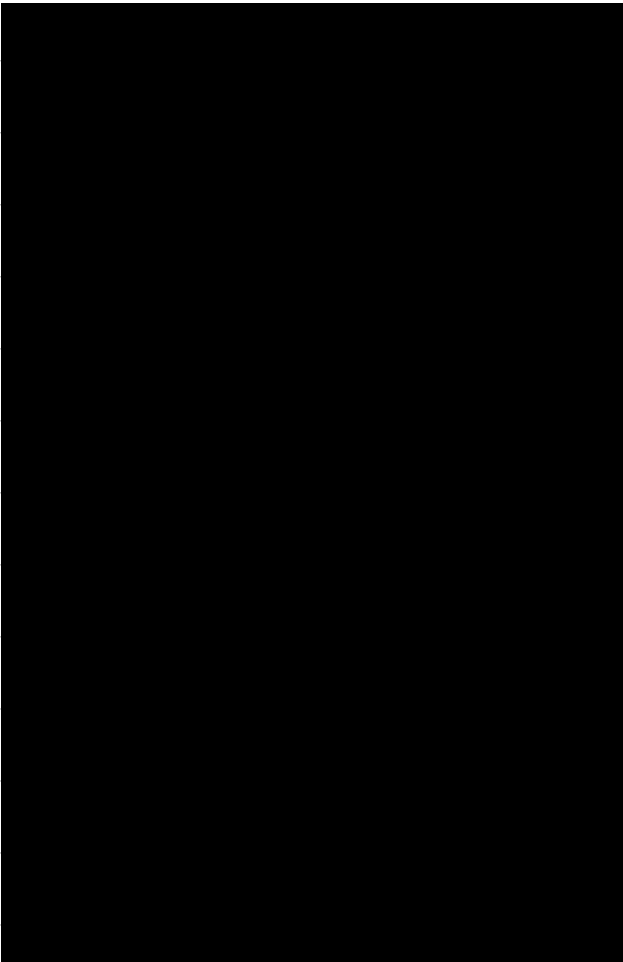
Count	Date	Source	Title	Quotes
[43]	7/31/2020	Foreign Affairs	Mil-Osi Global: Private Browsing: What It Does – and Doesn't Do – to Shield You From Prying Eyes on the Web	**Many people look for more privacy when they browse the web by using their browsers in privacy-protecting modes**, called 'Private Browsing' in Mozilla Firefox, Opera and Apple Safari; **'Incognito' in Google Chrome**" [...] "[M]any people who use private browsing have misconceptions about what protection they're gaining. A common misconception is that these browser modes allow you to browse the web anonymously, **surfing the web without websites identifying you** and without your internet service provider or your employer knowing what websites you visit. **The tools actually provide much more limited protections**." [...] "Essentially, each time you open a new private browsing window you are given a 'clean slate' in the form of a brand new browser window that has not stored any browsing history or cookies. When you close your private browsing window, the slate is wiped clean again and the browsing history and cookies from that private browsing session are deleted. However, if you bookmark a site or download a file while using private browsing mode, the bookmarks and file will remain on your system." [...] "[P]rivate browsing mode does not guarantee that your web activities cannot be linked back to you or your device. Notably, **private browsing mode does not prevent websites from learning your internet address,** and it does not prevent your employer, school or internet service provider from seeing your web activities by tracking your IP address." [...] "**private browsing does not offer any additional protection for the transmission of your credit card or other personal information** to a website when you fill out an online form."
[44]	7/31/2020	Fast Company	What Private Browsing Does—and Doesn't—Do to Shield You from Prying Eyes Online	"Notably, private browsing mode does not prevent websites from learning your internet address, and it does not prevent your employer, school, or internet service provider from seeing your web activities by tracking your IP address."
[45]	8/2/2020	Wired	Incognito Mode May Not Work the Way You Think It Does	"If you sign in to Google while using incognito mode, then your searches are once again being logged and associated with your account, assuming that's how your Google account preferences are set up—and Google is potentially also using its ad network and tracking technologies on other sites to keep tabs on you there too."
[46]	4/7/2021	Analytics Insight	Don't Trust the Incognito Mode for Online Privacy. Do This Instead.	"For online privacy, if you've been trusting the incognito mode for browsing, think again. Google has been sued in California because it continues to track people's data even in the Chrome browser's incognito mode."
[47]	7/3/2021	PCMag	How to Prevent Web Tracking on Your Favorite Browser With Incognito Mode	"**Incognito mode isn't perfect**, since the websites you visit can **still track you and your ISP can maintain a record of all the websites you browse**."
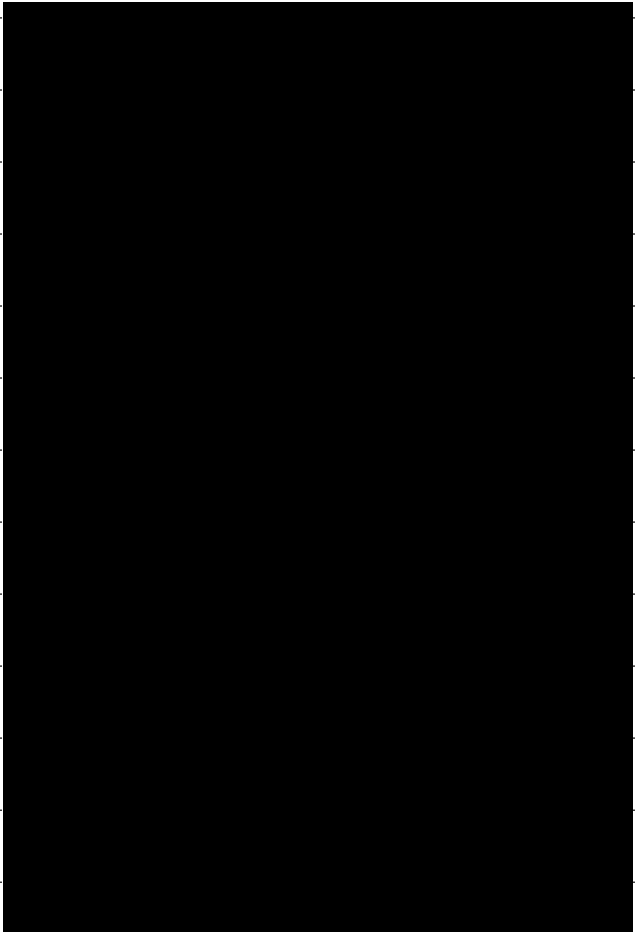
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[48]	11/2/2021	Reader's Digest	The Hidden Truth Behind Google's Incognito Mode	"The study analyzed how Google collected data across an array of devices such as Androids and Chromebooks and services like YouTube or Google. The authors discovered that **Google can still link your identity to the websites you browsed despite being undercover in Incognito Mode.**" [...] "**While other people using the device may not be able to view your browsing history, it is possible for your browsing history to be linked to your Google Account while using Google's Incognito Mode**. The study on Google Data Collection showed that for this to happen while incognito, you would first have to visit a third-party website that uses Google's advertising and publisher products, and then log into your personal account on 'a widely used Google service,' like Gmail. When you visit the third-party website, it sets a browser cookie that is not originally associated with your Google Account but is stored on your local mass storage. Then, by logging into your personal Google Account after visiting the third-party website, Google can connect these stored cookies (and thus, your browsing history) with the personal information in your account."
[49]	N/A	Mozilla	Incognito Browser: What It Really Means	"[T]here are a lot of misconceptions out there about private browsing or incognito mode. It won't protect you from viruses or malware. **It won't keep your internet service provider (ISP) from seeing where you've been online. It won't stop websites from seeing your physical location**. And any bookmarks you save while in private browsing or incognito mode won't disappear when you switch it off."
[50]	N/A	Dealna	What Doesn't Incognito Mode Protect-Advertising Cookies	"**An incognito window won't stop people tracking you through DNS records.** Whenever you visit a website, your browser will obtain the IP address of the site. The browser asks your DNS server for the IP address of the site you're visiting, and your DNS server must give the correct address for you to access the site. So, **your DNS server can record the queries and disclose them to advertisers** or law enforcement agencies."
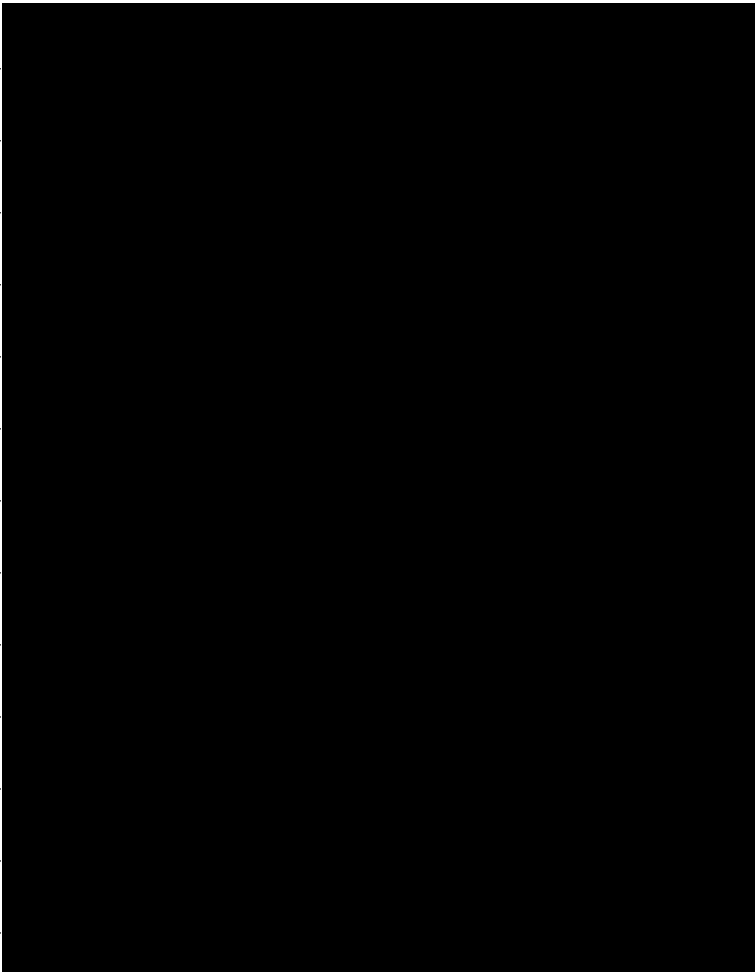
Exhibit 2

Summary of Findings From Research Into Cookie Disclosures

As of December 2021

Company	Website	Cookie Pop-up?	Specificity of Cookie Pop-up	Specificity of Disclosures in Privacy Policy/Terms of Service
Google Ad Manager: 25 Top-Level Domains with Highest Website Traffic Listed in Google's Response to Plaintiffs' Interrogatories				
1		**Yes**	**Generic**	**Mentions Google**
2		No	n.a.	Mentions third-parties
3		**Yes**	**Mentions third-parties**	**Mentions Google**
4		No	n.a.	Mentions Google
5		No	n.a.	Mentions Google
6		No	n.a.	Mentions Google
7		No	n.a.	Mentions Google
8		**Yes**	**Mentions third-parties**	**Mentions Google**
9		No	n.a.	Mentions third-parties
10		No	n.a.	Mentions Google
11		No	n.a.	Mentions third-parties
12		No	n.a.	Mentions third-parties
13		No	n.a.	Mentions Google
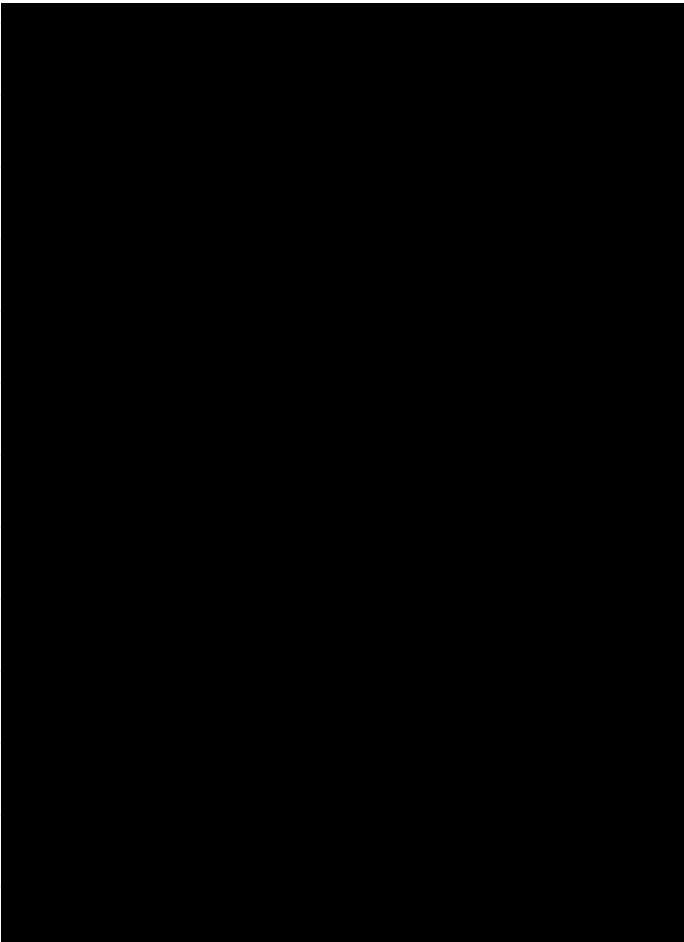
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As of December 2021

	Company	Website	Cookie Pop-up?	Specificity of Cookie Pop-up	Specificity of Disclosures in Privacy Policy/Terms of Service
14			No	n.a.	Mentions Google
15			**Yes**	**Mentions third-parties**	**Mentions Google**
16			**Yes**	**Generic**	**Mentions Google**
17			No	n.a.	Mentions Google
18			No	n.a.	Mentions Google
19			No	n.a.	Mentions Google
20			**Yes**	**Mentions third-parties**	**Mentions Google**
21			No	n.a.	Mentions third-parties
22			**Yes**	**Generic**	**Mentions third-parties**
23			**Yes**	**Generic**	**Mentions Google**
24			No	n.a.	Mentions Google
25			No	n.a.	Mentions Google

Exhibit 2

Summary of Findings From Research Into Cookie Disclosures

As of December 2021

	Company	Website	Cookie Pop-up?	Specificity of Cookie Pop-up	Specificity of Disclosures in Privacy Policy/Terms of Service
Google Analytics: 25 Top-Level Domains with Highest Website Traffic in Response to Plaintiffs' Interrogatories					
1			Yes	Generic	Mentions Google
2			Yes	Generic	Mentions Google
3			No	n.a.	Mentions Google
4			No	n.a.	Mentions third-parties
5			Yes	Mentions third-parties	Mentions third-parties
6			Yes	Mentions third-parties	Mentions third-parties
7			No	n.a.	Mentions Google
8			No	n.a.	Mentions third-parties
9			No	n.a.	Mentions Google
10			No	n.a.	Mentions Google
11			Yes	Mentions third-parties	Mentions Google
12			No	n.a.	Mentions third-parties
13			Yes	Generic	Mentions Google

Exhibit 2

Summary of Findings From Research Into Cookie Disclosures

As of December 2021

	Company	Website	Cookie Pop-up?	Specificity of Cookie Pop-up	Specificity of Disclosures in Privacy Policy/Terms of Service
14			**Yes**	**Mentions third-parties**	**Mentions third-parties**
15			No	n.a.	Mentions Google
16			**Yes**	**Generic**	**Mentions third-parties**
17			No	n.a.	Mentions Google
18			No	n.a.	Mentions Google
19			No	n.a.	Mentions Google
20			**Yes**	**Mentions third-parties**	**Mentions Google**
21			No	n.a.	Mentions Google
22			No	n.a.	Mentions third-parties
23			No	n.a.	Mentions third-parties
24			No	n.a.	Mentions Google
25			**Yes**	**Generic**	**Mentions Google**

Exhibit 3.A

Alphabet Inc.
Consolidated Statements of Income ($ in Millions)

	2016		2017		2018		2019		2020		2021		June 2016 - 2021	
	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue
Revenue														
Google Search & Other[1]	$63,785	70.7%	$69,811	63.0%	$85,296	62.3%	$98,115	60.6%	$104,062	57.0%	$148,951	57.8%	$543,443	60.2%
YouTube Ads[1]	N/A	N/A	$8,150	7.4%	$11,155	8.2%	$15,149	9.4%	$19,772	10.8%	$28,845	11.2%	$83,071	9.2%
Google Network Members Properties	$15,598	17.3%	$17,616	15.9%	$20,010	14.6%	$21,547	13.3%	$23,090	12.7%	$31,701	12.3%	$123,063	13.6%
Google Advertising	$79,383	87.9%	$95,577	86.2%	$116,461	85.1%	$134,811	83.3%	$146,924	80.5%	$209,497	81.3%	$749,577	83.1%
Google Other	$10,601	11.7%	$10,914	9.8%	$14,063	10.3%	$17,014	10.5%	$21,711	11.9%	$28,032	10.9%	$97,918	10.9%
Google Services Total	$89,984	99.7%	$106,491	96.1%	$130,524	95.4%	$151,825	93.8%	$168,635	92.4%	$237,529	92.2%	$847,495	93.9%
Google Cloud	N/A	N/A	$4,056	3.7%	$5,838	4.3%	$8,918	5.5%	$13,059	7.2%	$19,206	7.5%	$51,077	5.7%
Other Bets	$288	0.3%	$477	0.4%	$595	0.4%	$659	0.4%	$657	0.4%	$753	0.3%	$3,309	0.4%
Hedging Gains (Losses)	N/A	N/A	-$169	-0.2%	-$138	-0.1%	$455	0.3%	$176	0.1%	$149	0.1%	$473	0.1%
Total Revenue	$90,272	100.0%	$110,855	100.0%	$136,819	100.0%	$161,857	100.0%	$182,527	100.0%	$257,637	100.0%	$902,354	100.0%
Costs and Expenses:														
Cost of Revenue	$35,138	38.9%	$45,583	41.1%	$59,549	43.5%	$71,896	44.4%	$84,732	46.4%	$110,939	43.1%	$393,196	43.6%
Research and Development	$13,948	15.5%	$16,625	15.0%	$21,419	15.7%	$26,018	16.1%	$27,573	15.1%	$31,562	12.3%	$131,333	14.6%
Sales and Marketing	$10,485	11.6%	$12,893	11.6%	$16,333	11.9%	$18,464	11.4%	$17,946	9.8%	$22,912	8.9%	$94,664	10.5%
General and Administrative	$6,985	7.7%	$6,872	6.2%	$8,126	5.9%	$9,551	5.9%	$11,052	6.1%	$13,510	5.2%	$53,186	5.9%
European Commission Fines	$0	0.0%	$2,736	2.5%	$5,071	3.7%	$1,697	1.0%	$0	0.0%	$0	0.0%	$9,504	1.1%
Total Costs and Expenses	$66,556	73.7%	$84,709	76.4%	$110,498	80.8%	$127,626	78.9%	$141,303	77.4%	$178,923	69.4%	$681,883	75.6%
Income from Operations	$23,716	26.3%	$26,146	23.6%	$26,321	19.2%	$34,231	21.1%	$41,224	22.6%	$78,714	30.6%	$220,470	24.4%
Other Income (Expenses), Net	$434	0.5%	$1,047	0.9%	$8,592	6.3%	$5,394	3.3%	$6,858	3.8%	$12,020	4.7%	$34,164	3.8%
Income before Income Taxes	$24,150	26.8%	$27,193	24.5%	$34,913	25.5%	$39,625	24.5%	$48,082	26.3%	$90,734	35.2%	$254,635	28.2%
Provision for Income Taxes	$4,672	5.2%	$14,531	13.1%	$4,177	3.1%	$5,282	3.3%	$7,813	4.3%	$14,701	5.7%	$49,229	5.5%
Net Income	$19,478	21.6%	$12,662	11.4%	$30,736	22.5%	$34,343	21.2%	$40,269	22.1%	$76,033	29.5%	$205,405	22.8%

Note:

[1] In 2016 Google Search & Other and YouTube Ads fall under the category of Google Properties.

Sources:

Alphabet Inc., SEC Forms 10-K for the periods ended December 31, 2016 - 2021.

Exhibit 3.B

Alphabet Inc.
Revenues and Operating Income (Loss) by Segment ($ in Millions)

	2016		2017		2018		2019		2020		2021		June 2016 - 2021	
	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue	Amount	% of Revenue
Revenues														
Google[1]	$89,984	99.7%	$110,378	99.6%	$136,224	99.6%	$160,743	99.3%	N/A	N/A	N/A	N/A	$459,836	51.0%
Google Services[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$168,635	92.4%	$237,529	92.2%	$406,164	45.0%
Google Cloud	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$13,059	7.2%	$19,206	7.5%	$32,265	3.6%
Other Bets[3]	$288	0.3%	$477	0.4%	$595	0.4%	$659	0.4%	$657	0.4%	$753	0.3%	$3,309	0.4%
Hedging Gains (Losses)[4]	N/A	N/A	N/A	N/A	N/A	N/A	$455	0.3%	$176	0.1%	$149	0.1%	$780	0.1%
Total Revenue	**$90,272**	**100.0%**	**$110,855**	**100.0%**	**$136,819**	**100.0%**	**$161,857**	**100.0%**	**$182,527**	**100.0%**	**$257,637**	**100.0%**	**$902,354**	**100.0%**
Operating Income (loss)														
Google[1]	$27,055	30.0%	$32,287	29.1%	$36,517	26.7%	$41,673	25.7%	N/A	N/A	N/A	N/A	$126,259	14.0%
Google Services[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$54,606	29.9%	$91,855	35.7%	$146,461	16.2%
Google Cloud	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-$5,607	-3.1%	-$3,099	-1.2%	-$8,706	-1.0%
Other Bets[3]	-$2,741	-3.0%	-$2,734	-2.5%	-$3,358	-2.5%	-$4,824	-3.0%	-$4,476	-2.5%	-$5,281	-2.0%	-$22,272	-2.5%
Corporate Costs, Unallocated[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-$3,299	-1.8%	-$4,761	-1.8%	-$8,060	-0.9%
Reconciling Items[6]	-$598	-0.7%	-$3,407	-3.1%	-$6,838	-5.0%	-$2,618	-1.6%	N/A	N/A	N/A	N/A	-$13,212	-1.5%
Total Operating Income (loss)	**$23,716**	**26.3%**	**$26,146**	**23.6%**	**$26,321**	**19.2%**	**$34,231**	**21.1%**	**$41,224**	**22.6%**	**$78,714**	**30.6%**	**$220,470**	**24.4%**

Notes:

[1] "Google" includes revenues/operating income (loss) from "Google properties," "Google Network Members' properties," "Google Cloud" and "Google other."

[2] "Google Services" includes revenues/operating income (loss) from "Google Search & other," "YouTube ads," "Google Network Members' properties" and "Google other."

[3] "Other Bets" includes emerging businesses at various stages of development, ranging from those in the R&D phase to those that are in the beginning stages of commercialization.

[4] "Hedging Gains (Losses)" are related to revenue/operating income (loss) included in corporate costs.

[5] "Corporate Costs, Unallocated" primarily include corporate initiatives, corporate shared costs, such as finance and legal, including certain fines and settlements, as well as costs associated with certain shared research and development activities.

[6] "Reconciling Items" are primarily related to corporate administrative costs and other miscellaneous items that are not allocated to individual segments.

[7] 2016-2018 revenues and operating income (loss) are from SEC Form 10-K for 2018. 2019-2021 revenues and operating income (loss) are from the SEC Form 10-K for the respective year.

Sources:

Alphabet, Inc., SEC Forms 10-K for the periods ended December 31, 2018 - 2021.

Exhibit 4

Alphabet Inc. Cost Regression

Q3 2016–Q1 2022

Dependent Variable[2]	Revenue Coefficient[3]	Revenue Coefficient t-statistic	Adjusted R-Squared	Data[4]
Cost of Revenues	0.45 *	39.2	0.99	Enterprise-Wide
SG&A Expenses	0.12 *	14.0	0.90	Enterprise-Wide
R&D Expenses	0.10 *	11.9	0.86	Enterprise-Wide
Cost of Revenues + SG&A Expenses	0.57 *	33.6	0.98	Enterprise-Wide
Cost of Revenues + SG&A Expenses + R&D Expenses	0.67 *	29.6	0.98	Enterprise-Wide
SG&A Expenses + R&D Expenses	0.22 *	16.8	0.93	Enterprise-Wide
Cost of Revenues + Operating Expenses	0.62 *	29.1	0.97	Google-Specific

Notes:

[1] I conducted the regression analyses using quarterly financial data from Alphabet, Inc.'s SEC Forms 10-Q for the quarterly periods from Q3 2016 to Q1 2022. In each regression analysis, the cost measure listed under "Dependent Variable" is the dependent variable, Alphabet's/Google's revenue is the independent variable.

[2] "Cost of Revenues" are the costs of goods sold. "SG&A Expenses" are the selling, general and administrative expenses reported by Alphabet. "R&D" Expenses are the research and development expenses reported by Alphabet. "SG&A Expenses + R&D Expenses" are the sum of selling, general and administrative expenses and research and development expenses. "Cost of Revenues + SG&A Expenses+ R&D Expenses" are the sum of costs of goods sold, selling, general and administrative expenses and research and development expenses. "SG&A Expenses + R&D Expenses" are the sum of selling, general and administrative expenses and research and development expenses. "Cost of Revenues + Operating Expenses" are calculated as Google-Specific revenue minus Google-Specific operating profit.

[3] "*" denotes Revenue Coefficients that are statistically significant at the 1% significance level.

[4] "Data" refers to the type of financial data that I used to run each respective regression analysis. When "Data" is populated with "Enterprise-Wide," it indicates that I conducted the regression analysis using Alphabet's revenue and cost data for each quarter. When "Data" is populated with "Google-Specific," it indicates that I conducted the regression analysis using Google's revenue and cost data. Data for Cost of Revenues, SG&A, and R&D are only available for Alphabet, Inc.

Source:
Capital IQ.
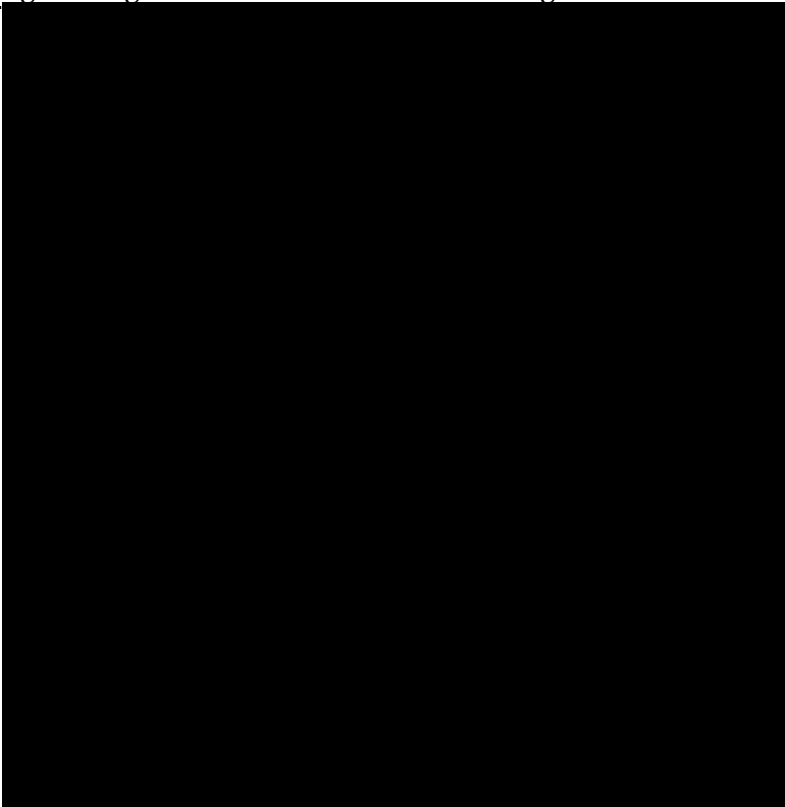
Exhibit 5

Correlation between Chrome Incognito Pageloads and Incognito Instances

September 2020—December 2021

	Incognito Pageloads	Incognito Instances
September 2020		
October 2020		
November 2020		
December 2020		
January 2021		
February 2021		
March 2021		
April 2021		
May 2021		
June 2021		
July 2021		
August 2021		
September 2021		
October 2021		
November 2021		
December 2021		
Correlation		

Sources:
Lasinski Report, Schedules 17.5, 17.6, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7.

Exhibit 6

Adjusted Shares of Browser Traffic in Private Browsing Mode[1]

2016—2021

Share of Traffic in Incognito Mode is Calculated Assuming the Share of Incognito Traffic Increased Only from the November 2018 to the November 2019 and Remained the Same in Other Periods[2]							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**Ratio to Incognito**
Share of Incognito Traffic							
Share of Edge Traffic in Private Browsing Mode							
Share of Safari Traffic in Private Browsing Mode							

Share of Traffic in Incognito Mode is Calculated Assuming the Growth in Incognito Traffic from November 2018 to November 2019 is Representative of the Growth in Incognito Traffic Prior to November 2018							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**Ratio to Incognito**
Share of Incognito Traffic							
Share of Edge Traffic in Private Browsing Mode							
Share of Safari Traffic in Private Browsing Mode							

Notes:

[1] To account for the growth in the share of traffic in private browsing mode over time, I adjust Mr. Lasinski's 2018 and 2019 shares of traffic in Incognito mode to be consistent with the growth in Incognito page loads between November 2018 and November 2019, which was ▮▮▮▮▮▮▮. See GOOG-BRWN-00617282. Consistent with Mr. Lasinski's methodology, I adjust the shares of traffic in private browsing modes for Edge and Safari to be proportional to the traffic shares in Incognito mode.

[2] I apply a monthly growth rate of ▮▮▮▮▮▮ to the 2018 and 2019 shares of traffic in Incognito mode to account for the growth between November 2018 and November 2019. I assume the 2020 shares of traffic in Incognito mode are mid-year.

Sources:

GOOG-BRWN-00617282; Lasinski Report, Schedule 11.1; Schedule 22.1.

Exhibit 7

Adjusted Autobidding and Conversion Tracking Shares of Revenue

2016–2021

	2016	2017	2018	2019	2020	2021
Share of Search Ads Conversion Based Autobidding[1]						
Share of Search Ads Non-Conversion-Based Autobidding[1]						
Share of Search Ads Manual Bidding						
Conversion Tracking Share of Google U.S. Search Ads Revenue[2]						
Autobidding Share of U.S. Display Ads Revenue[1]						
Autobidding Share of U.S. YouTube Ads Revenue[3]						

Notes:

[1] This analysis adjusts Mr. Lasinski's 2021 assumed contributions of autobidding based on the growth in autobidding between beginning of 2020 and end of April 2020, which was ███████.

[2] Consistent with Mr. Lasinski, this analysis assumes ██████████ changes would have ████████████ ██ I assume the growth of autobidding is at the expense of manual bidding. This is a conservative assumption because, following Mr. Lasinski's assumption, I assume ████████ of manual bidding relies on third-party cookies where as ████████ of non-conversion based autobidding relies on third-party cookies. For Display Ads and YouTube Ads, consistent with both the ████████ and Mr. Lasinski, I only evaluate the share of conversion-based autobidding which relies entirely on third-party cookies.

[3] For the autobidding share of U.S. YouTube Ads revenue, I assume its share grows at the same rate as the conversion tracking share of Google U.S. Search Ads Revenue.

Sources:

GOOG-CABR-04324934--944; GOOG-CABR-X-00000753-764; Lasinski Report.

Exhibit 8

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound

	Scenario 1: Personalization and Conversion from all Traffic	Scenario 2: Personalization from 3P Cookies, Conversion from all Traffic	Scenario 3: Personalization and Conversion from 3P Cookies	Note
Display Ads-Chrome Incognito				Exhibit 10.B.i
Display Ads-Edge				Exhibit 10.B.ii
Display Ads-Safari				Exhibit 10.B.iii
Total Display Ads				
YouTube-Chrome Incognito				Exhibit 10.B.vii
YouTube-Edge				Exhibit 10.B.viii
YouTube-Safari				Exhibit 10.B.ix
Total YouTube Ads				
Search-Chrome Incognito				Exhibit 10.B.iv
Search-Edge				Exhibit 10.B.v
Search-Safari				Exhibit 10.B.vi
Total Search Ads				
Total-Chrome Incognito				
Total-Edge				
Total-Safari				
Total Damages				

Note:

This analysis changes the following assumptions to Mr. Lasinski's model: (1) apply ▮▮▮▮▮ profit margin, (2) account for growth in traffic shares in private browsing mode assuming the percent change in Incognito traffic from November 2018 to November 2019 is representative of the percentage change in Incognito traffic from 2016 to 2018, and (3) account for growth in autobidding.

Exhibit 9

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound

	Scenario 1: Personalization and Conversion from all Traffic	Scenario 2: Personalization from 3P Cookies, Conversion from all Traffic	Scenario 3: Personalization and Conversion from 3P Cookies	Note
Display Ads-Chrome Incognito				Exhibit 10.C.i
Display Ads-Edge				Exhibit 10.C.ii
Display Ads-Safari				Exhibit 10.C.iii
Total Display Ads				
YouTube-Chrome Incognito				Exhibit 10.C.vii
YouTube-Edge				Exhibit 10.C.viii
YouTube-Safari				Exhibit 10.C.ix
Total YouTube Ads				
Search-Chrome Incognito				Exhibit 10.C.iv
Search-Edge				Exhibit 10.C.v
Search-Safari				Exhibit 10.C.vi
Total Search Ads				
Total-Chrome Incognito				
Total-Edge				
Total-Safari				
Total Damages				

Note:

This analysis changes the following assumptions to Mr. Lasinski's model: (1) apply ▮▮▮▮▮▮ profit margin, (2) account for growth in traffic shares in private browsing mode based on Incognito traffic from November 2018 to November 2019 only, (3) and account for growth in autobidding.

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
Display Ad Revenue - Chrome Incognito

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Display Ads Traffic							
Incognito Share of Chrome Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Incognito U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by ▉ Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Incognito U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. Display Ads Traffic							
Incognito Share of Chrome Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▉ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Incognito U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Incognito U.S. Display Ads Revenue Attributable to Personalization and Conversion from 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
Display Ad Revenue - Edge / IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Edge Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Edge U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Edge U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Edge Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Edge U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Edge U.S. Display Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
Display Ad Revenue - Safari

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Safari Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Safari U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Safari U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Safari U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Safari U.S. Display Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
Search Ads Revenue - Chrome Incognito

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
	Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies						
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. Search Ads Traffic							
Incognito Share of Chrome Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Chrome Incognito Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from <u>All Traffic</u>							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from <u>Traffic With 3P Cookies</u>							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
Search Ads Revenue - Edge/IE

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Search Ads Traffic							
Edge Private Browsing Share of Edge Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Edge/IE Private Browsing Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
Search Ads Revenue - Safari

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Search Ads Traffic							
Safari Private Browsing Share of Safari Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Safari Private Browsing Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
YouTube Ads Revenue - Incognito - Chrome

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. YouTube Ads Traffic							
Incognito Share of Chrome Traffic							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. YouTube Ads Traffic							
Incognito Share of Chrome Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Incognito U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Incognito U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
YouTube Ads Revenue - Private Browsing - Edge /IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Share of Revenue Not Impacted by ITP Implementation							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Edge/IE U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Edge/IE U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.A

Replication of Lasinski's Unjust Revenue Model
YouTube Ads Revenue - Private Browsing - Safari

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Share of Revenue Not Impacted by ITP Implementation							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Safari U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Safari U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
Display Ad Revenue - Chrome Incognito

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Display Ads Traffic							
Incognito Share of Chrome Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Incognito U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Incognito U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. Display Ads Traffic							
Incognito Share of Chrome Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Incognito U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Incognito U.S. Display Ads Revenue Attributable to Personalization and Conversion from 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
Display Ad Revenue - Edge / IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Edge Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Edge U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Edge U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Edge Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Edge U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Edge U.S. Display Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
Display Ad Revenue - Safari

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Safari Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Safari U.S. Display Ads Revenue Attributable to <u>All Traffic</u>							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Safari U.S. Display Ads Revenue from <u>Personalization from 3P Cookies</u>							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from <u>All Traffic</u>							
Share of Revenue Not Impacted by ITP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from <u>Traffic With 3P Cookies</u>							
Scenario 2: Total Safari U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Safari U.S. Display Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
Search Ads Revenue - Chrome Incognito

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
	Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies						
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. Search Ads Traffic							
Incognito Share of Chrome Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Chrome Incognito Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
Search Ads Revenue - Edge/IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Search Ads Traffic							
Edge Private Browsing Share of Edge Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Edge/IE Private Browsing Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
Search Ads Revenue - Safari

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Search Ads Traffic							
Safari Private Browsing Share of Safari Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Safari Private Browsing Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
YouTube Ads Revenue - Incognito - Chrome

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. YouTube Ads Traffic							
Incognito Share of Chrome Traffic							
Share of Revenue Not Impacted by ▮▮▮ Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. YouTube Ads Traffic							
Incognito Share of Chrome Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Incognito U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Incognito U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
YouTube Ads Revenue - Private Browsing - Edge /IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Share of Revenue Not Impacted by ITP Implementation							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Edge/IE U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Edge/IE U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.B

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Lower Bound
YouTube Ads Revenue - Private Browsing - Safari

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Share of Revenue Not Impacted by ITP Implementation							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Safari U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Safari U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
Display Ad Revenue - Chrome Incognito

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Display Ads Traffic							
Incognito Share of Chrome Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Incognito U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮▮ Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Incognito U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. Display Ads Traffic							
Incognito Share of Chrome Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Incognito U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Incognito U.S. Display Ads Revenue Attributable to Personalization and Conversion from 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
Display Ad Revenue - Edge / IE

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Edge Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Edge U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Edge U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Edge Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Edge U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Edge U.S. Display Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
Display Ad Revenue - Safari

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Display Ad Revenue Based on All Traffic or Personalization using 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue - Excluding AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Safari Traffic							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 1: Total Safari U.S. Display Ads Revenue Attributable to All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic with 3P Cookies							
Revenue Impact of Traffic w/ 3P Cookies Expressed as a % of Revenue Impact of all Traffic							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Scenarios 2 & 3: Total Safari U.S. Display Ads Revenue from Personalization from 3P Cookies							
Display Ad Revenue Based on Conversion from All Traffic or 3P Cookies							
Google Display Ads Revenue							
Share of DVAA Revenue that is not related to AdMob							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Display Ads Traffic							
Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google Display Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Safari U.S. Display Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Safari U.S. Display Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
Search Ads Revenue - Chrome Incognito

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. Search Ads Traffic							
Incognito Share of Chrome Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Chrome Incognito Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮▮ Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
Search Ads Revenue - Edge/IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. Search Ads Traffic							
Edge Private Browsing Share of Edge Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Edge/IE Private Browsing Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by MTP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic Wit 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
Search Ads Revenue - Safari

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Search Ads Revenue Based on Conversion Tracking from All Traffic or 3P Cookies							
Google Search & Other Revenue							
Google Search Ads Revenue Share							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. Search Ads Traffic							
Safari Private Browsing Share of Safari Traffic							
(Autobidding) Share of Google U.S. Search Ads Revenue Driven by Conversion Tracking							
Google Account Use Among Safari Private Browsing Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
YouTube Ads Revenue - Incognito - Chrome

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. YouTube Ads Traffic							
Incognito Share of Chrome Traffic							
Share of Revenue Not Impacted by ▮▮▮ Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Chrome Share of Google U.S. YouTube Ads Traffic							
Incognito Share of Chrome Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Revenue Not Impacted by ▮▮▮ d Implementation							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Incognito U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Incognito U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
YouTube Ads Revenue - Private Browsing - Edge /IE

	June 1, 2016—Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Edge Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Share of Revenue Not Impacted by ITP Implementation							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Edge/IE U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Edge/IE U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Exhibit 10.C

Mr. Lasinski's Alleged Unjust Enrichment Damages After Adjustments: Upper Bound
YouTube Ads Revenue - Private Browsing - Safari

	June 1, 2016— Dec. 31, 2016	2017	2018	2019	2020	2021	Total
YouTube Ads Revenue Based on Personalization from Traffic with 3P Cookies							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Share of Revenue Not Impacted by ITP Implementation							
Share of Revenue Attributable to Traffic With 3P Cookies							
Traffic from Embedded Players							
Relative Contribution of Short Term Profiles							
Revenue Impact Due to Loss of Personalization							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2 & 3: Personalization from Traffic With 3P Cookies							
YouTube Ads Revenue Based on Conversion							
Google YouTube Ads Revenue							
U.S. Share of Total Alphabet Revenue							
Partial Year Proration							
Safari Share of Google U.S. YouTube Ads Traffic							
Safari Private Browsing Mode Share of Safari Traffic							
Autobidding Share of Google U.S. YouTube Ads Attributable to Conversion Tracking							
Google Account Use Among Private Browsing Mode Users							
Adjustment for Signed Out Private Browsing							
Google's Profit Margin							
Scenario 2: Conversion Tracking from All Traffic							
Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies							
Share of Revenue Not Impacted by ITP Implementation							
Scenario 3: Conversion Tracking from Traffic With 3P Cookies							
Scenario 2: Total Safari U.S. YouTube Ads Revenue Attributable to Personalization from 3P Cookies, Conversion from all Traffic							
Scenario 3: Total Safari U.S. YouTube Ads Revenue Attributable to Personalization and Conversion Tracking from Traffic With 3P Cookies							

Appendix A

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Bruce Strombom is an expert in applied microeconomics, finance, and quantitative and statistical analysis. He provides assistance to attorneys in all phases of pretrial and trial practice, prepares economic and financial models, and provides expert testimony in litigation and public policy matters. Dr. Strombom has conducted assessments of class certification, liability, and damages issues in cases involving antitrust, breach of contract, ERISA, false advertising, intellectual property, labor and employment, product liability, securities, and general commercial disputes.

Prior to joining Analysis Group, Dr. Strombom was Executive Vice President of a middle-market merger and acquisition firm, where he managed a financial and market research organization that provided valuation and consulting services to over 500 privately held companies annually. Previously, he was Consulting Manager at Price Waterhouse, where he provided litigation support and value enhancement consulting services, and Senior Financial Analyst at the Tribune Company, where he evaluated capital projects and acquisition candidates. Dr. Strombom holds a Ph.D. in economics from the University of California, Irvine, and a B.A. in economics from San Jose State University.

EDUCATION

Ph.D.   Economics, University of California, Irvine
                          Fields: Finance and Industrial Organization
                          Thesis: Switching Cost, Price Sensitivity and Health Plan Choice

B.A.   Economics, San Jose State University, San Jose, CA

PROFESSIONAL EXPERIENCE

2022   Senior Advisor, Analysis Group, Inc., Los Angeles, CA

2004 – 2021   Managing Principal, Analysis Group, Inc., Los Angeles, CA

1993 – 2004   Senior Associate and Vice President, Analysis Group, Inc., Los Angeles, CA

1992   Regional General Manager, Prodata, Inc., Sacramento, CA

1985 – 1991   Executive Vice President, Geneva Business Research Corp., Irvine, CA

1983 – 1985   Manager of Consulting Services, Price Waterhouse, Newport Beach, CA

1981 – 1983   Senior Financial Analyst, Tribune Newspapers West, Woodland Hills, CA

Appendix A

TESTIMONY AT DEPOSITION OR TRIAL IN THE LAST FOUR YEARS

General Commercial Litigation

- **Patrick Calhoun, et al., v. Google LLC - (US_DIS_CAND) [20-cv-5146]**
  United States District Court, Northern District of California, San Jose Division
  Evaluate plaintiffs' proposed method for identifying members of the class, establishing injury and calculating damages to users of the web browser Chrome caused by Google's alleged unlawful collection and use of personal infomation (expert report and deposition).

- **Taqueria El Primo LLC, et al. v. Farmers Group, Inc., et al. - (US_DIS_MND) 19-cv-307**
  United States District Court, District of Minnesota
  Examine economic issues related to alleged harm to consumers who purchased no-fault automobile insurance caused by "no-bill" agreements with certain health care providers (declarations, expert report and deposition).

- **Eric Fishon, et al. v. Peloton Interactive, Inc. - 19-cv-11711**
  United States District Court, Southern District of New York
  Evaluate whether the methodologies proposed by plaintiffs can be used to calculate damages on a class-wide basis using evidence common to proposed class members (expert report and deposition).

- **Sherris Minor, et al. v. Baker Mills, Inc. and Kodiak Cakes, LLC - 20-cv-2901**
  United States District Court, Northern District of California
  Assess whether the methodologies proposed by plaintiffs can be used to calculate damages on a class-wide basis using evidence common to proposed class members (expert report and deposition).

- **Byron Jackson, et al. v. Anheuser-Busch Companies, LLC, et al. - 20-cv-2901**
  United States District Court, Southern District of Florida, Miami Division
  Evaluate whether marketplace evidence indicates a price premium associated with alleged false advertising and whether any price premium is common to the proposed class (expert report and deposition).

- **John Nypl, et al. v. JPMorgan Chase & Co., et al. - 15-cv-09300**
  United States District Court, Southern District of New York
  Evaluate whether plaintiffs can determine, using class-wide proof, the fact of antitrust injury and the amount of damages to members of a proposed class of retail foreign exchange customers caused by alleged manipulation of spot rates by a cartel of traders in interbank foreign currency markets (expert report and deposition).

- **In re: Brinker Data Incident Litigation - 18-cv-00686**
  United States District Court, Middle District of Florida
  Evaluate whether plaintiffs demonstrated common impact across putative class members and whether the proposed methodologies for calculating class-wide damages related to an alleged data breach are reliable (expert declaration and deposition).

- **RCS Creditor Trust v. Nicholas S. Schorsch, et al. - (DE_CHA_STW) 2017-0178**
  The Court of Chancery of the State of Delaware
  Evaluate economic evidence related to the level of compensation paid to broker-dealers of non-traded REITs (expert report, deposition and testimony at trial).

Appendix A

- **Camille Cabrera, et al. v. Bayer Healthcare LLC and Bayer Corporation - 17-cv-8525**
United States District Court, Central District of California
Evaluate whether data on transaction prices and volumes support claims of a price premium associated with an allegedly false label claim and whether the proposed methodology can be used to calculate damages to consumers of childrens' vitamins on a classwide basis (expert reports and deposition).

- **Stanley F. Frompovicz, et al. v. Niagara Bottling, LLC, et al. - 18-CV-0054**
United States District Court, Eastern District of Pennsylvania
Examine economic issues related to class certification and determine whether econmic impact and damages to spring water extractors and bottlers can be determined on a classwide basis (expert report and deposition).

- **Dikla Gavrieli v. Kfir Gavrieli - CA_SUP_LAX BC686856**
Superior Court of the State of California, County of Los Angeles
Determine the value of a digital native vertical retailer at various dates and rebut plaintiff's damages calculation (depositions and testimony at trial).

- **Debbie Krommenhock, et al. v. Post Foods LLC - 16-cv-4958**
United States District Court, Northern District of California
Assess whether plaintiffs' proposed use of conjoint analysis provides a reliable method of calculating class-wide damages in this matter involving alleged misleading health claims on boxes of Post cereal (expert reports and deposition).

- **Iconlab Inc., et al. v. Valeant Pharmaceuticals International, Inc., et al.- US_CACD 16-CV-1321**
United States District Court, Central District of California, Southern Division
Evaluate lost profits and unjust enrichment in this matter involving alleged misappropriation of trade secrets related to the sale of intraocular lenses in Turkey and India (expert report and deposition).

- **Denis Marc Audet, et al. v. Stuart A. Fraser, et al. - US_DIS_CTD 16-cv-940**
United States District Court, District of Connecticut
Review economic evidence related to class certification in this matter involving the sale of virtual currency mining equipment and cloud-hosted mining and the inital coin offering of the cryptocurrency Paycoin (expert reports and depositions).

- **M et al. v. Mizuho Bank and Mark Karpeles - US_DIS_ILND 14-cv-1437**
United States District Court, Northern District of Illinois, Eastern Division
Evaluate economic issues related to class certification in this matter involving the bankruptcy of the bitcoin exchange Mt. Gox (expert report and deposition).

- **Maricopa County v. Office Depot, Inc. - US_DIS_AZD_ 14-01372**
United States District Court, District of Arizona
Calculate damages from the alleged failure to comply with the terms of a contract that guaranteed the plaintiff the lowest prices offered by the defendant (expert report and deposition).

Appendix A

ERISA

- **Kevin Moitoso, et al. v. FMR LLC, et al. - US_DIS_MAD 18-12122**
  United States District Court, District of Massachusetts
  Evaluate whether a defined contribution retirement plan and its members incurred economic losses attributable to alleged breaches of fiduciary duty under ERISA (expert reports, declarations and deposition).

- **Theresa Brown, et al. v. Nationwide Life Insurance Company, et al. - 17-cv-558**
  United States District Court, Southern District of Ohio Eastern Division at Columbus
  Assess, from an economic perspective, whether claims that Nationwide charged unreasonable asset-based fees for the provision of recordkeeping and other administrative service can be evaluated on a class-wide basis (expert report and deposition).

- **Steve Wildman, et al. v. American Century Services, LLC, et al. - US_DIS_MOWD 16-cv-737**
  United States District Court, Western District of Missouri
  In this ERISA class action involving claims that a 401(k) plan sponsor breached fiduciary duties, plan fees were excessive and investment options were imprudent, evaluate whether liability and damages can be determined on a class-wide basis without individualized inquiry and evaluate plaintiffs' damages estimate (expert reports, deposition and testimony at trial).

Health Care and Health Insurance

- **Jennifer Bennett, et al. v. Quest Diagnostics, Inc.- (US_DIS_NJD) 17-cv-1590**
  United States District Court, District of New Jersey
  Evaluate plaintiffs' proposed method for identifying members of proposed classes, determining "fair and reasonable" prices for laboratory tests and calculating damages sustained by each member of the proposed classes (expert report and deposition).

- **In re Ranbaxy Generic Drug Application Antitrust Litigation - US_DIS_MAD 19-md-2878**
  United States District Court, District of Massachusetts
  Evaluate economic issues related to certification of a class of third party payors and calculate damages from the alleged wrongfully obtained first-to-file exclusivity for generic versions of Diovan, Valcyte and Nexium (expert report and deposition).

- **In re Glumetza Antitrust Litigation**
  United States District Court, Northern District of California
  US District Court for the Northern District of California [19-cv-7843 19-cv-6839 19-cv-5822 19-cv-5426 19-cv-5831 19-cv-6156 20-cv-5251]
  Evaluate whether antitrust injury to each putative class member can be proven with common evidence and whether the proposed method for calculating aggregate overcharges through common evidence is reliable (expert reports and depositions).

- **In re Zetia (Ezetimibe) Antitrust Litigation - US_DIS_VAED 18-MDL 2836**
  United States District Court, Eastern District of Virginia, Norfolk Division
  Examine economic issues related to the certification of a class of direct purchasers (expert reports and deposition).

Appendix A

- **The Hospital Authority of Metropolitan Government of Nashville and Davidson County Tennessee, et al. v. Momenta Pharmaceuticals, Inc., et al. - US_DIS_TNMD 15-1100**
  United States District Court, Middle District of Tennessee, Nashville Division
  Evaluate the proposed method of calculating class-wide damages to end-payors from the alleged manipulation of the generic approval process and resulting delay of generic entry and determine to what extent increased prices at the manufacturer level impact prices paid by end-payors (expert report and deposition).

- **In re Loestrin 24 FE Antitrust Litigation - US_DIS_RID 13-md-2472**
  United States District Court, District of Rhode Island
  Evaluate availability of an administratively feasible method for ascertaining the members of a proposed end-payor class and the economic role of PBMs in retail prescription drug transactions (expert report, deposition and testimony at hearing).

- **Francis Fenwick, et al. v. Ranbaxy Pharmaceuticals, et al. - US_DIS_NJD 12-cv-7354**
  United States District Court, District of New Jersey
  Evaluate plaintiffs' proposed methodology for identifying class members and calculating damages on a class-wide basis to consumers who purchased generic atorvastatin that may have contained a foreign material (expert report and deposition).

- **In re Wellbutrin XL Antitrust Litigation - US_DIS_PAED 08-02433**
  United States District Court, Eastern District of Pennsylvania
  Evaluate the ascertainability of members of a class of indirect purchasers given risk-sharing arrangements in the distribution of pharmaceuticals and the "pass-on" of health care costs by health plans in the form of higher premiums (expert reports and deposition).

Title Insurance

- **In The Matter of First American Title Insurance Company Market Conduct Examination**
  Before the Indiana Commissioner of Insurance
  Review and evaluate the methods of statistical sampling, extrapolation and calculation of alleged overcharges and premium tax underpayments used in the Department of Insurance's Market Conduct Examination (expert report, deposition and testimony at hearing).

Automotive

- **Barry Rebuk et al. v. Ford Motor Company of Canada, et al.- (CDN_SUP_BC) [VLC-S-S-1912193]**
  Ontario (Canada) Superior Court of Justice
  Evaluate whether represntations of fuel consumption ratings based on an older 2-cycle Testing Method resulted in overcharges for Ford vehicles sold in Canada (expert reports and cross examination).

Appendix A

- **Ronald Garcia, et al. v. Harley Davidson Motor Company Group, LLC - (US_DIS_CAND) 19-cv-2054**
  United States District Court, Northern District of California
  Evaluate economic issues related to class certification including plainitffs' proposed use of the cost to repair an alleged defect in ABS as a measure of benefit of the bargain damages (expert report and deposition).

- **Biljana Capic, et al. v. Ford Motor Company of Australia Limited - File No. ACN 004 116 223**
  Federal Court of Australia, District Registry: New South Wales
  Evaluate the plaintiffs' method of calculating excess depreciation, diminution in value at the point of initial purchase and other harm resulting from allegedly defective transmissions in certain Ford vehicles (expert reports and testimony at trial).

- **Shawn Alger, et al. v. FCA US LLC - US_DIS_CAED 18-cv-360**
  United States District Court, Eastern District of California
  Evaluate plaintiffs' proposed use of replacement cost as a measure of classwide damages caused by allegedly defective active head restraint systems (expert report and deposition).

- **In re: FCA US LLC Monostable Electronic Gearshift Litigation - US_DIS_MIED 16-md-2744**
  United States District Court, Eastern District of Michigan, Southern Division
  Analyze used car prices for evidence of diminution of value resulting from alleged defects in electronic gearshifts (expert reports and depositions).

- **Tom Kondash, et al. v. Kia Motors America and Kia Motors Corp. - US_DIS_OHSD 15-cv-00506**
  United States District Court, Southern District of Ohio
  Evaluate the plaintiffs' proposed method of calculating class-wide damages resulting from alleged defects in panoramic sunroofs (expert report and deposition).

- **Billy Glenn, et al. v. Hyundai Motor America, et al. - 15-cv-02052**
  United States District Court, Central District of California
  Evaluate the plaintiffs' proposed method of calculating class-wide damages and conduct a statistical analysis of the fracture rates of conventional and panoramic sunroofs (expert report and deposition).

- **Margie Daniel, et al. v. Ford Motor Company - US_DIS_CAED 11-2890**
  United States District Court, Eastern District of California
  Evaluate repair costs for fleet vehicles for evidence of excess tire wear and review prices of used car transactions for evidence of excess depreciation in the Ford Focus (expert report, deposition and testimony at trial).

PAPERS AND PRESENTATIONS

"Product Liability Litigation Involving Pharmaceuticals and Medical Devices: How Has It Changed in the Big Data/Social Media Era?" Law and Economics Symposium, MIT Sloan, Samberg Center, May 6 2019, Cambridge, MA.

"Using Cash Flows Versus Accrual Net Income," (co-author), *Calculation of Lost Profits Damages – Theory and Practice*, 1st ed., Everett and Kinrich, eds., Valuation Products and Services LLC, 2017.

Appendix A

"Competition in Title Insurance Markets Since the Great Recession," presented at the National Conference of Insurance Legislators, Summer Meeting, July 11, 2013, Philadelphia, PA.

"Use The Right Model For Auto Defect Suits," Law360, July 09, 2013.

"Class Certification and Damages Theories: Consumers' Valuation of Un-priced Product Attributes," presented at a Webinar continuing legal education forum sponsored by Ballard Spahr, May 16, 2012.

"Statistical Analyses in Proactive Audits and Employment Litigation," presented at a Webinar continuing legal education forum for attorneys sponsored by Analysis Group, Inc. May 20, 2009.

"The Subprime Mortgage Crisis and Disclosures: What Went Wrong?" presented at a Webinar continuing legal education forum for attorneys sponsored by Analysis Group, Inc., July 29, 2008

"The Subprime Mortgage Crisis and Disclosures: What Went Wrong?" presented at a continuing education forum for attorneys sponsored by Analysis Group, Inc., June 24, 2008, San Francisco, CA.

"Subprime Litigation: A Survival Guide," presented at Institutional Investor Legal Forum Summer Roundtable, June 18, 2008, Santa Monica, CA.

"Subprime Lending Litigation," Program Co-chair at a continuing education forum for attorneys sponsored by CLE International, May 8 and 9, 2008, Los Angeles, CA.

"Reductions in Force: Strategies to Minimize Litigation Risk in Downsizing," presented at a continuing education forum for attorneys sponsored by K&L Gates, January 17, 2008, New York, NY.

"Investigation of Racial Profiling by the LAPD – Pedestrian and Motor Vehicle Post-Stop Data Analysis Report," City of Los Angeles, July 2006.

"An Assessment of Competition in California Title Insurance and Escrow Markets," with Bruce Stangle, report prepared for First American Title Insurance Company, August 30, 2006.

"Evaluation of Proposed Regulations for the California Title Insurance and Escrow Industry," with Bruce Stangle, report prepared for First American Title Insurance Company, August 30, 2006.

"Competition and Title Insurance Rates in California," with Bruce Stangle, report prepared for First American Title Insurance Company, January 23, 2006.

"Competition and Title Insurance Prices in California," report and presentation to the National Association of Insurance Commissioners (NAIC), Title Insurance Working Group, June 2006, Washington DC.

"Switching Cost, Price Sensitivity and Health Plan Choice," *Journal of Health Economics* 21, January 2002, p. 89-116.

"Risk Selection Caused by the Correlation of Health Status and Sensitivity to Price," Research in Health Care Financial Management Symposium, August 2001, Best Research Paper Award.

Appendix B

Materials Relied Upon

Expert Reports

Expert Report of Georgios Zervas, April 15, 2022

Expert Report of Mark Keegan, April 15, 2022

Expert Report of Michael J. Lasinski, April 22, 2022

Expert Report of Professor On Amir, April 15, 2022

Rebuttal Report of Professor On Amir, May 20, 2022

Legal and Related Documents

Defendant's Supplemental Response and Objections to Plaintiffs Interrogatory No. 5

Order Denying Motion to Dismiss to Dismiss, *Chasom Brown, et al. v. Google LLC* , Case No. 5:20-cv-03664-LHK, March 12, 2021

Order Granting in Part and Denying in Part Motion for Class Certification, in *Re: Matthew Campbell, et al., v. Facebook Inc.* , Case No. 13-cv-5996-PJH (Dkt 192), filed May 18, 2016

Plaintiff Chasom Brown's Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC* , Case No. 5:20-cv-03664-LHK-SVK

Plaintiff Christopher Castillo's Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC* , Case No. 5:20-cv-03664-LHK-SVK

Plaintiff Jeremy Davis' Verified Amended Objections and Response to Defendant's Interrogaotry No.2, *Chasom Brown, et al. v. Google LLC* , Case No. 5:20-cv-03664-LHK-SVK

Plaintiff William Byatt's Verified Amended Objections and Response to Defendant's Interrogatory No.2, *Chasom Brown, et al. v. Google LLC* , Case No. 5:20-cv-03664-LHK-SVK

Third Amended Complaint, *Chasom Brown, et al. v. Google LLC* , Case No. 5:20-cv-03664-YGR, filed February 3, 2022

Depositions

Deposition Transcript of Chasom Brown, January 13, 2022, and exhibits thereto

Deposition Transcript of Christophe Combette, April 27, 2022 and exhibits thereto

Deposition Transcript of Dr. Caitlin Sadowski, March 10, 2022, and exhibits thereto

Deposition Transcript of Jeremy Davis, January 7, 2022 and exhibits thereto

Deposition Transcript of Ramin Halavati, January 18, 2022, and exhibits thereto

Deposition Transcript of Troy Walker, March 24, 2022, and exhibits thereto

Deposition Transcript of William Byatt, December 20, 2021 and exhibits thereto

Declaration

Declaration of George Levitte Regarding Google Ad Manager Profits in Opposition to Plaintiffs' Motion for Class Certification, in Patrick Calhoun, et al., v. Google LLC, Case No. 20-CV-05146-LHK, December 17, 2021

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Alphabet, Inc., SEC Form 10-K, for the period ended December 31, 2017

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2020 Insights Panel, Product Requirements Document, May 28, 2020	GOOG-CABR-04766037	GOOG-CABR-04766072
Ads Impact and Response from ▇▇▇▇ and ▇▇▇ & Secure" Launches	GOOG-CABR-04324934	GOOG-CABR-04324944
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Google, "How to lead in a data-centric era?	GOOG-BRWN-00203888	GOOG-BRWN-00203938
Identity end-state scenarios, Revenue estimates for Display, YT, Apps, 2019-Q3	GOOG-CALH-00300451	GOOG-CALH-00300486
Internal Knowledge Base	GOOG-CABR-X-00000512	GOOG-CABR-X-00000752
IPSOS Incentive Structure History	GOOG-CABR-X-00000418	GOOG-CABR-X-00000419
PRD: ▇▇▇ - Desktop	GOOG-CABR-00409399	GOOG-CABR-00409413
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	GOOG-BRWN-00480203	GOOG-BRWN-00480236
	GOOG-CABR-00087149	GOOG-CABR-00087159
	GOOG-CABR-00790093	GOOG-CABR-00790095
	GOOG-CABR-03627280	GOOG-CABR-03627286
	GOOG-CABR-03630076	GOOG-CABR-03630173
	GOOG-CABR-03635725	
	GOOG-CABR-03709454	

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Materials Relied Upon

Case Documents Continued…	Bates Start	Bates End
	GOOG-CABR-03731716	GOOG-CABR-03731727
	GOOG-CABR-04067825	GOOG-CABR-04067867
	GOOG-CABR-04431207	GOOG-CABR-04431271
	GOOG-CABR-04486714	
	GOOG-CABR-0530733	GOOG-CABR-0530740
	GOOG-CABR-05321478	GOOG-CABR-05321498
	GOOG-CABR-05756337	GOOG-CABR-05756339
	GOOG-CABR-05424608	
	GOOG-CABR-05424629	
	GOOG-CABR-05435660	
	GOOG-CALH-01020091	GOOG-CALH-01020123
	GOOG-CALH-01020283	GOOG-CALH-01020315
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